Philips Consumer Electronics

Technical Service Data

Service and Quality
Service Publications Dept.
One Philips Drive
P.O. Box 14810
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Manual 7628
Model no.: 19LT010L/35
First Publish: 12760 S8
Rev. Date: 2002-06-06
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Pg. SCHEMATIC DIAGRAMS AND PC BOARDS

REFER TO SAFETY GUIDELINES

SAFETY NOTICE: ANY PERSON ATTEMPTING TO SERVICE THIS CHASSIS MUST FAMILIARIZE HIMSELF WITH THE CHASSIS AND BE AWARE OF THE NECESSARY SAFETY PRECAUTIONS TO BE USED WHEN SERVICING ELECTRONIC EQUIPMENT CONTAINING HIGH VOLTAGES.

CAUTION: USE A SEPARATE ISOLATION TRANSFORMER FOR THIS UNIT WHEN SERVICING

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Mechanical Diagrams

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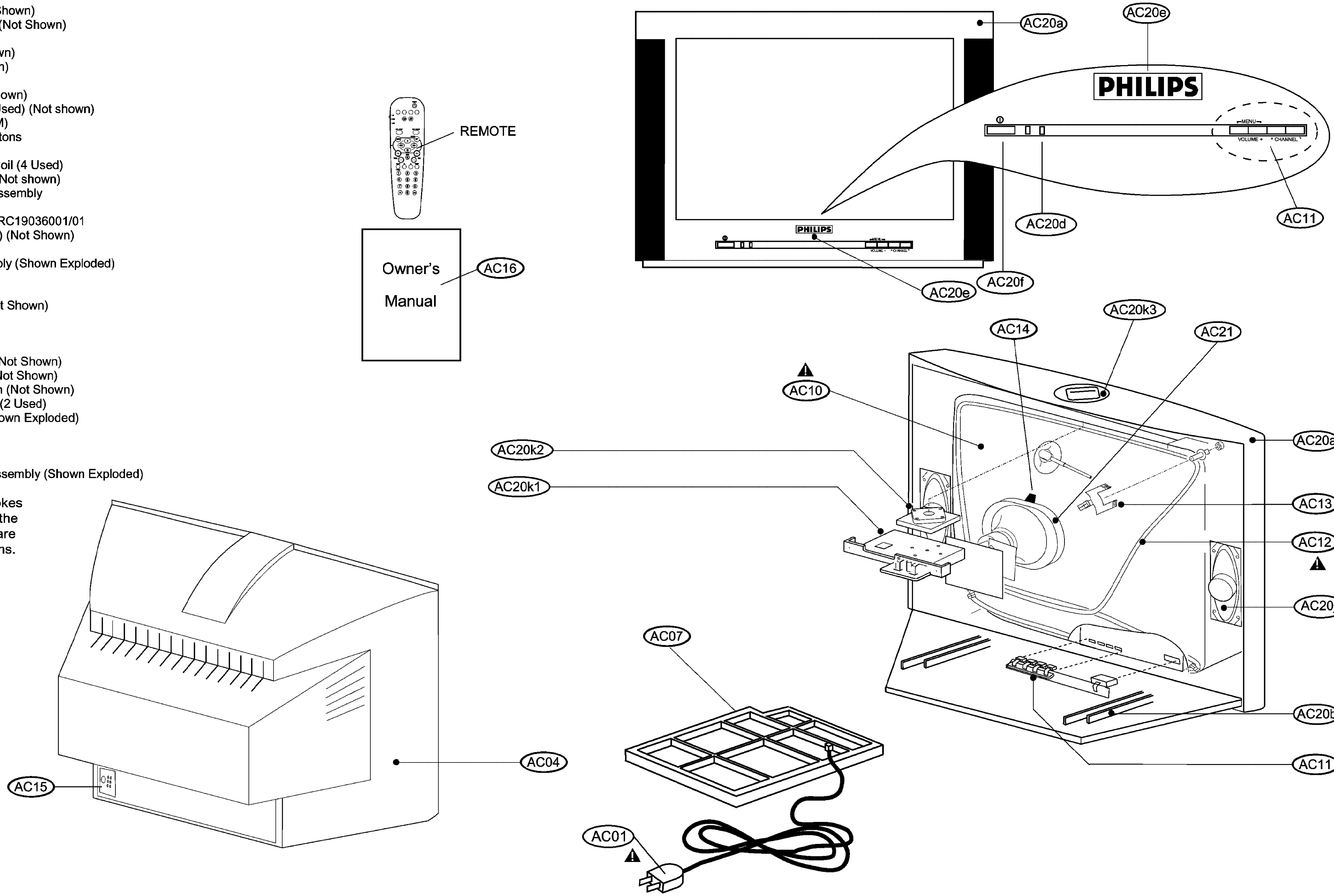
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TYPICAL TABLE MODEL EXPLODED VIEW

AC01	AC Cord
AC02	AC Cord Relief (Not Shown)
AC03	Battery, 1.5V, 2PACK (Not Shown)
AC04	Cabinet Back
AC05	Card Cover (Not Shown)
AC06	Card Door (Not Shown)
AC07	Chassis Tray
AC08	Clip, AC Cord (Not Shown)
AC09	Clip, Anode Lead (3 Used) (Not shown)
AC10	CRT, A48JLL40X46(M)
AC11	Customer Control Buttons
AC12	Degaussing Coil
AC13	Holder, Deguassing Coil (4 Used)
AC14	Housing, Smart Port (Not shown)
AC15	Jack Panel Bracket Assembly
AC16	Owner's Manual
REMOTE	Remote Transmitter, RC19036001/01
AC18	Spacer, (EHT CABLE) (Not Shown)
AC19	Yoke Wedge
AC20	Cabinet Front Assembly (Shown Exploded)
AC20a	Cabinet Front
AC20b	Chassis Guide
AC20c	Jack Panel Cover (Not Shown)
AC20d	Light Guide
AC20e	Nameplate
AC20f	Power Button
AC20g	Power Button Cover (Not Shown)
AC20h	Power Button Shaft (Not Shown)
AC20i	Bracket, Power Button (Not Shown)
AC20j	Speaker, 16ohm, 5W (2 Used)
AC20k	Top Contol Panel (Shown Exploded)
AC20k1	Top Control Bracket
AC20k2	Top Control Button
AC20k3	Top Control Cover
AC20k4	Top Control Button Assembly (Shown Exploded)
AC21	Deflection Yoke
	Some Deflection Yokes are Integrated with the Picture Tubes and are not replaceable items.



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Electrical Adjustments

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CAUTION: USE A SEPARATE ISOLATION TRANSFORMER FOR THIS UNIT WHEN SERVICING

Alignments - S8 Chassis

Index of this chapter:

Note: The Service Default Alignment Mode (SDAM) is described in the "Service Modes, Error Codes and Fault Finding" section. SDAM menu navigation is performed by using the MENU UP, MENU DOWN, MENU LEFT, and MENU RIGHT keys of the remote control transmitter.

General Alignment Conditions

Perform all electrical adjustments under the following conditions:

- AC voltage and frequency: 110V (± 10 %), 60Hz (± 5 %).
- Connect the television set to the AC power via an isolation transformer.
- Allow the television set to warm up for approximately20 minutes.
- Measure the voltages and waveforms in relation to chassis ground (with the exception of the voltages on the primary side of the power supply). Never use heatsinks as ground.
- Test probe: Ri > 10MO; Ci < 2.5pF.
- Use an isolated trimmer/screwdriver to perform the alignments.

Service Default Alignment Mode (SDAM) Entry for Commercial Models

Note: For commercial models, a master setup remote control is required in order to access the Service Default Alignment Mode (SDAM).

1. Use the master setup remote control to identify the television’s operational mode (either “consumer” or “commercial”). Place the master setup remote control in *setup mode* by pressing the TV SETUP key.

2. Press the RECALL key. Information similar to the following will be displayed.

Status Item	**Status Data**	***Meaning***
SYSTEM STATUS (L011TV-US4PV)		*Information title*

MODE	COMMERCIAL/CONSUMER	*Operational mode*
CHANNEL	CHANNEL, INPUT	*Currently tuned channel/input*
DCM	OFF/ON	*Data Comm. Module online/offline*
CODES	209 222 1 33	*Internal data for factory/service use*
SIGNAL	TUNED/NOT TUNED	*Valid signal present/absent*
OP HRS	0031h	*Number of hours set has operated (hex)*
ERRORS	0 0 0 0 0	*Internal data for factory/service use*
VERSION	3.3	*Microprocessor software version*

3. To change the television's mode, ensure the master setup remote control is in setup mode, then press the 0-2-4-9-9-5-MENU keys in order, without permitting the display to time out while entering the key sequence.

Note: *If the operational mode is changed, the television must be turned off and then back on to complete the mode change. When the television is in consumer mode, do not use the master setup remote control to activate commercial mode features.*

4. When the television is in commercial mode, the Institutional Television Menu may be accessed by pressing the MENU button. Though the specific items in the menu will vary, information similar to the following will be displayed.

Menu Item	**Settings / Options**
(MENU TITLE)	SETUP MENU / MAIN MENU
LANGUAGE	ENGLISH / ESPANOL / FRANCAIS
CHANNEL INSTALL	>
CABLE TUNING	ON / OFF
BRIGHTNESS	- - - | - - - 31
COLOR	- - - | - - - 31
CONTRAST	- - - | - - - 31
SHARPNESS	- - - | - - - 31
TINT	- - - | | - - - 0
NOISE REDUCTION	ON / OFF
SOUND MODE	MONO / STEREO
SAP	OFF / NO SAP / ON
AUDIO OUT	FIXED / VARIABLE
BALANCE	- - - | - - - 0
TREBLE	- - - | - - - 31
BASS	- - - | - - - 31
INCRED STEREO	ON / OFF
AVL	ON / OFF
VOLUME BAR	ON / OFF
MIN VOLUME	| - - - - - - 0
MAX VOLUME	- - - - - - | 63
SWITCH ON VOLUME	- - - | - - - 31
SWITCH ON CHANNEL	CH. 1-125 / FRONT / AUX / S-VIDEO / CVI / STANDARD
POWER ON	STANDARD / FORCED
CHANNEL DISPLAY	NUMBER / LABEL / ALL / NONE
KEYBOARD LOCK	ON / OFF
ESP	1 – 99 / OFF
AUDIO / VIDEO MUTE	OFF / BLACK / BLUE
EXT AUD / VID OUT	ON / OFF
WELCOME MESSAGE	>

CHANNEL GUIDE	POWER ON / OFF / ON
REMINDER	ON / OFF
3 DIGIT ENTRY	ON / OFF
A/CH A/V SWITCH	ON – OFF
CC	OFF / CC-1 / CC-2 / CC ON MUTE
SAVE CC	ON / OFF
V-CHIP MENU ITEM	ON / OFF
SAVE V-CHIP	ON / OFF
V-CHIP SETUP	>
SLEEPTIMER	OFF / 15 / 30 / 45 / 60 / 90 / 120 / 180 / 240
EXIT	>

5. After making changes to the settings, the EXIT option may be used to leave the Institutional Television Menu.

Hardware Alignments

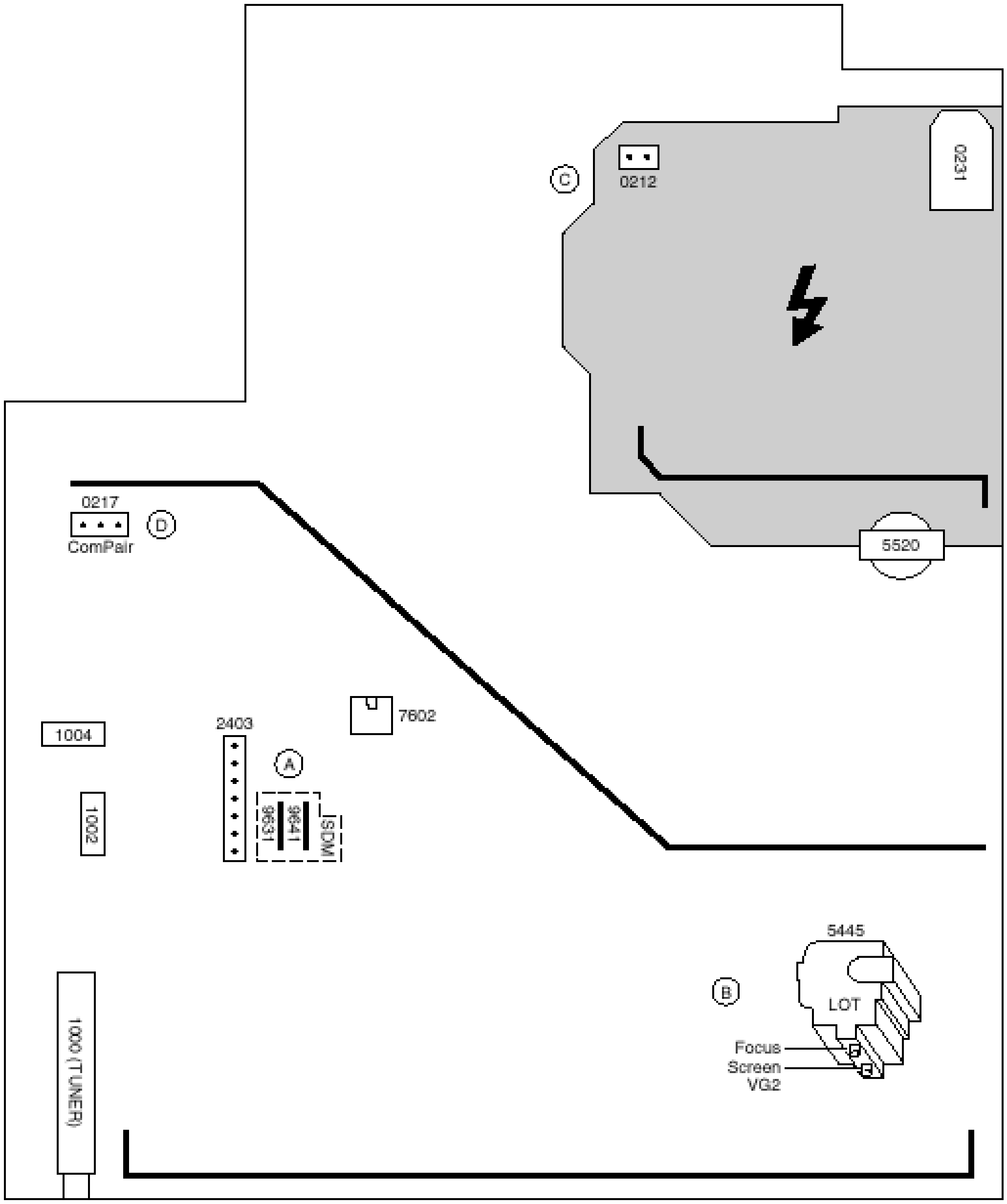


Figure: Top view LSP

Vg2 Adjustment

1. Enter SDAM:
    - Press the following key sequence on the remote control transmitter: 0-6-2-5-9-6-MENU
    - Do not allow the display to time out between entries while keying the sequence.
2. Use the MENU UP/DOWN keys to highlight the WHITE TONE sub menu.

3. Press the MENU LEFT or MENU RIGHT key to enter the WHITE TONE sub menu.
4. In the WHITE TONE sub menu, press the MENU UP/DOWN keys to select NORMAL RED, NORMAL GREEN, or NORMAL BLUE.
5. Use the MENU LEFT/RIGHT keys to set the values of NORMAL RED, NORMAL GREEN and NORMAL BLUE to 40.
6. Press the MENU button twice to enter the normal user menu.
7. In the normal user menu, use the MENU UP/DOWN keys to highlight the PICTURE sub menu (if necessary).
8. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
9. Use the MENU UP/DOWN keys to select PICTURE. Be sure to record the current value of PICTURE.
10. Use the MENU LEFT/RIGHT keys to set the value of PICTURE to zero.
11. Use the MENU UP/DOWN keys to select BRIGHTNESS. Be sure to record the current value of BRIGHTNESS.
12. Use the MENU LEFT/RIGHT keys to set the value of BRIGHTNESS to minimum (OSD just visible in a dark room).
13. Press the MENU button twice to return to the top level SDAM menu.
14. Press the STATUS/EXIT button to hide the SDAM onscreen display.
15. Connect the RF output of a video pattern generator to the antenna input.
16. Input a "black picture" test pattern to the television set.
17. Set the oscilloscope to 50 V/div and the time base to 0.2 milliseconds (external triggering on the vertical pulse).
18. Ground the scope at the CRT panel and connect a 10:1 probe to one of the cathodes of the picture tube socket (see schematic diagram B).
19. Measure the cut off pulse during first full line after the frame blanking (see Fig. 8-2). You will see two pulses, one being the cut off pulse and the other being the white drive pulse. Choose the one with the lowest value; this is the cut off pulse.
20. Select the cathode with the highest DC voltage for the alignment. Adjust the V Cut-Off of this gun with the SCREEN potentiometer(see Fig. 8-1) on the LOT to the correct value (see table below).
21. Press the STATUS/EXIT button to display the SDAM onscreen display.

22. Press the MENU button to enter the normal user menu.
23. In the normal user menu, use the MENU UP/DOWN keys to highlight the PICTURE sub menu (if necessary).
24. Press the MENU LEFT/RIGHT keys to enter the PICTURE sub menu.
25. Use the MENU UP/DOWN keys to select PICTURE.
26. Use the MENU LEFT/RIGHT keys to reset the value of PICTURE to the original value.
27. Use the MENU UP/DOWN keys to select BRIGHTNESS.
28. Use the MENU LEFT/RIGHT keys to reset the value of BRIGHTNESS to the original value.
29. Press the MENU button twice to return to the top level SDAM menu.
30. Use the POWER button on the remote control transmitter or the POWER button on the television set to turn off the television set. This will save the changes made in SDAM.

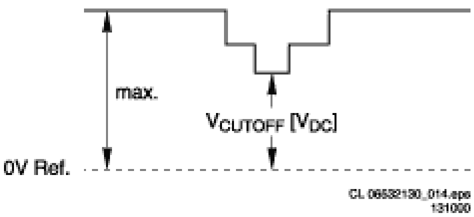


Figure: Waveform Vg2 alignment

V Cut-Off Values

Screen Size	Cut-off Voltage
13V/14", 14RF/15RF, 17",19V/20", 21"	+135V +/- 4V

Focusing

1. Connect the RF output of a video pattern generator to the antenna input.
2. Input a circle or crosshatch test pattern to the television set.
3. Press the AUTO PICTURE button on the remote control transmitter repeatedly to choose PERSONAL or MOVIES picture mode.
4. Adjust the FOCUS potentiometer (see Fig. 8-1)until the vertical lines near the left and right sides of the screen, and near the horizontal center of the screen, are at minimum width without visible haze.

Software Alignments and Settings

The following options are performed in the Service Default Alignment Mode (SDAM).
SDAM is described in the "Service Modes, Error Codes and Fault Finding" section.
The following alignments are explained:

- Options
- Tuner
- White tone
- Geometry
- Audio

Options



Figure: Options Screen

Options are used to control the presence or absence of certain features and hardware.

How to change an Option Byte

An Option Byte represents a number of different options. Changing these bytes directly makes it possible to set all options very quickly. All options are controlled via seven option bytes.

To change Option Byte(s):

1. Enter SDAM:
   - Press the following key sequence on the remote control transmitter: 0-6-2-5-9-6-MENU
   - Do not allow the display to time out between entries while keying the sequence.
2. Use the MENU UP/DOWN keys to highlight the OPTIONS sub menu.
3. Press the MENU LEFT or MENU RIGHT key to enter the OPTIONS sub menu.

4. In the OPTIONS sub menu, press the MENU UP/DOWN keys to select OP 1 through OP 7.

5. Use the number keys on the remote control transmitter to enter a new value for the selected option byte. The value must be entered as a three-digit value (for example, "4" would be entered as "0-0-4").

6. The selected value must be between 0 and 255.

7. When all desired changes to the option bytes are made, press the MENU button to return to the top level SDAM menu. This will save changes to the option byte settings.

8. To ensure the option byte changes take effect:

   - Turn the television set OFF by using the POWER button on the remote control transmitter or the local keyboard.
   - Disconnect the television set from AC power for at least ten seconds.
   - Reconnect the television set to AC power.
   - Turn the television set ON by using the POWER button on the remote control transmitter or the local keyboard.

Option Byte Codes - S8 Chassis

MODEL	OPTION BYTES						
	OP1	**OP2**	**OP3**	**OP4**	**OP5**	**OP6**	**OP7**
13LT010L/35	132	16	150	148	8	0	0
13PR12 W321	0	23	1	0	144	153	0
14LK10 0021	0	23	1	0	144	153	0
14LL10 0131	16	23	1	0	144	153	0
19LT010L/35	132	16	150	148	8	0	0
19LT220L/17	132	16	2	132	136	0	0
19PR11 C321	0	23	1	0	144	153	0
19PR11 C322	0	23	1	0	144	153	0
19PR16 C321	0	23	1	0	144	153	0
19PR16 C322	0	23	1	0	144	153	0
19PR30 C122	1	23	1	1	144	153	0
19PS35 S321	0	215	1	64	144	153	0
19PS35 S322	0	215	1	64	144	153	0
19PS45 S321	0	23	1	1	144	153	0
19PS45 S322	0	23	1	1	144	153	0
19PS50 S321	0	23	1	162	180	153	0
19ST220L/17	132	16	2	132	8	0	0
20LL20 0132	16	23	1	0	144	153	0
20LW20 2232	16	23	1	162	180	153	0

20LX20 0132	16	23	1	0	144	153	0
20LZ20 2222	16	23	1	1	144	153	0
CH0119 C322	133	16	2	132	0	0	0
HC0113 C321	1	16	148	148	0	0	0
HC0119 C322	1	16	148	148	0	0	0
PA0113 C321	221	218	35	36	0	0	0
PA0132 C321	223	222	43	40	0	0	0
PC0119 C322	133	16	2	132	0	0	0
PL0119 C322	1	16	0	132	0	0	0

* Option Byte Data for these models was not available at manual release.
Refer to future updates to this manual regarding these models.

Tuner

Note: Described alignments are only necessary when the NVM (part reference number7602) is replaced.

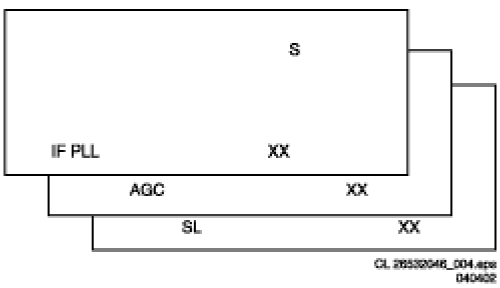


Figure: Tuner alignment screens

IF PLL

This adjustment is auto-aligned. Therefore, no action is required.

AGC (AGC take over point)

1. Connect the RF output of a video pattern generator to the antenna input.
2. Input a color bar test pattern to the television set.
3. Set the amplitude of the video pattern generator to 10 mV and set the frequency to 61.25 MHz (channel 3).
4. Connect a DC multimeter to pin 1 of the tuner(item 1000 on the main chassis).
5. Enter SDAM:
    - Press the following key sequence on the remote control transmitter: 0-6-2-5-9-6-MENU
    - Do not allow the display to time out between entries while keying the sequence.

6. Use the MENU UP/DOWN keys to highlight the TUNER sub menu.

7. Press the MENU LEFT/RIGHT keys to enter the TUNER sub menu.

8. Use the MENU UP/DOWN keys to select AGC.

9. Use the MENU LEFT/RIGHT keys to adjust the AGC value (default value is 27) until the voltage at pin 1 of the tuner lies between 3.8V and 2.3V.

10. Press the MENU button to return to the top level SDAM menu.

11. To ensure the AGC change takes effect:

    - Turn the television set OFF by using the POWER button on the remote control transmitter or the local keyboard.
    - Disconnect the television set from AC power for at least ten seconds.
    - Reconnect the television set to AC power.
    - Turn the television set ON by using the POWER button on the remote control transmitter or the local keyboard.

SL (Slicing Level)

This adjustment sets the sync slicing level for non-standard signals.
SL should be turned ON to help correct picture instability in premium decoded cable channels.
OFF: slicing level dependent on noise detector
ON: fixed slicing level of 70%

To adjust SL:

1. Enter SDAM:

    - Press the following key sequence on the remote control transmitter: 0-6-2-5-9-6-MENU
    - Do not allow the display to time out between entries while keying the sequence.

2. Use the MENU UP/DOWN keys to highlight the TUNER sub menu.

3. Press the MENU LEFT/RIGHT keys to enter the TUNER sub menu.

4. Use the MENU UP/DOWN keys to select SL.

5. Use the MENU LEFT/RIGHT keys to toggle SL "Off" and "On"

6. Press the MENU button to return to the top level SDAM menu.

7. To ensure the SL setting is saved:

- Turn the television set OFF by using the POWER button on the remote control transmitter or the local keyboard.
- Disconnect the television set from AC power for at least ten seconds.
- Reconnect the television set to AC power.
- Turn the television set ON by using the POWER button on the remote control transmitter or the local keyboard.

White Tone

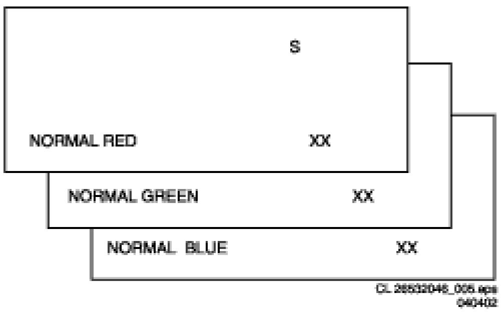


Figure: White tone alignment screens

The values of the black cut off level can be adjusted in the WHITE TONE sub menu. Normally, no alignment is needed for WHITETONE, and the given default values are used.

Default settings for NORMAL (color temperature = 9600K):

- NORMAL RED = 40
- NORMAL GREEN = 40
- NORMAL BLUE = 40

To adjust NORMAL RED, NORMAL GREEN, and NORMAL BLUE:

1. Enter SDAM:
    - Press the following key sequence on the remote control transmitter: 0-6-2-5-9-6-MENU
    - Do not allow the display to time out between entries while keying the sequence.
2. Use the MENU UP/DOWN keys to highlight the WHITE TONE sub menu.
3. Press the MENU LEFT/RIGHT keys to enter the WHITE TONE sub menu.
4. Use the MENU UP/DOWN keys to select NORMAL RED, NORMAL GREEN, or

NORMAL BLUE.

5. Use the MENU LEFT/RIGHT keys to adjust the value of NORMAL RED, NORMAL GREEN, or NORMAL BLUE.

6. When all desired changes to the WHITE TONE submenu values are made, press the MENU button to return to the top-level SDAM menu.

7. To ensure the WHITE TONE settings are saved:

   - Turn the television set OFF by using the POWER button on the remote control transmitter or the local keyboard.
   - Disconnect the television set from AC power for at least ten seconds.
   - Reconnect the television set to AC power.
   - Turn the television set ON by using the POWER button on the remote control transmitter or the local keyboard.

Geometry

The geometry alignments menu contains several items for correct picture geometry alignment.

1. Connect the RF output of a video pattern generator to the antenna input.

2. Input a crosshatch test pattern to the television set.

3. Set the amplitude of the video pattern generator to at least 1mV and set the frequency to 61.25MHz (channel 3).

4. Press the AUTO PICTURE button on the remote control transmitter repeatedly to choose PERSONAL or MOVIES picture mode.

5. Enter SDAM:

   - Press the following key sequence on the remote control transmitter: 0-6-2-5-9-6-MENU
   - Do not allow the display to time out between entries while keying the sequence.

6. Use the MENU UP/DOWN keys to highlight the GEOMETRY sub menu.

7. Press the MENU LEFT/RIGHT keys to enter the GEOMETRY sub menu.

8. Use the MENU UP/DOWN keys to highlight either the HORIZONTAL sub menu or the VERTICAL sub menu.

9. Press the MENU LEFT/RIGHT keys to enter either the HORIZONTAL sub menu or the VERTICAL sub menu.

10. Use the MENU UP/DOWN keys to select items in the HORIZONTAL sub menu or the VERTICAL sub menu.

11. Use the MENU LEFT/RIGHT keys to adjust the values of items in the HORIZONTAL and VERTICAL sub menus.

12. When all desired changes to the HORIZONTAL and VERTICAL sub menu values are made, press the MENU button twice to return to the top level SDAM menu.

13. To ensure the GEOMETRY settings are saved:
    - Turn the television set OFF by using the POWER button on the remote control transmitter or the local keyboard.
    - Disconnect the television set from AC power for at least ten seconds.
    - Reconnect the television set to AC power.
    - Turn the television set ON by using the POWER button on the remote control transmitter or the local keyboard.

The following alignments can be performed in the GEOMETRY submenu:

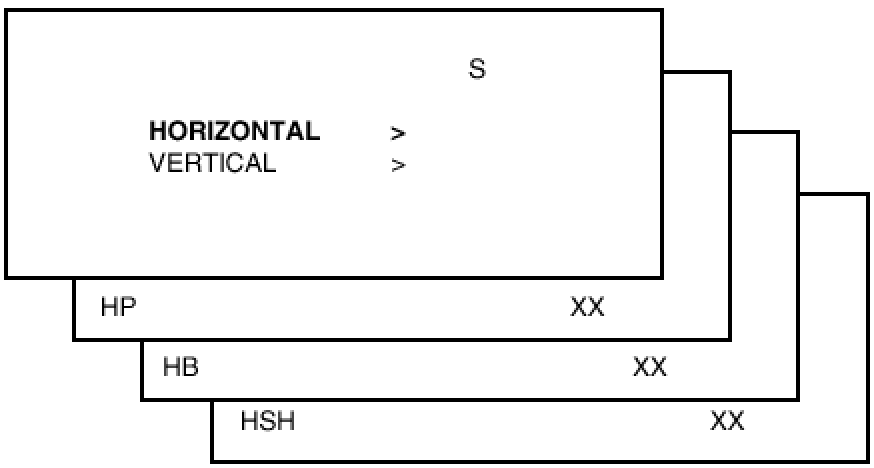


Figure: Horizontal geometry alignment screens

Horizontal:

- **Horizontal Parallelogram (HP).** Aligns straight vertical lines at the top and the bottom of the screen; vertical rotation around the center.
- **Horizontal Bow(HB).** Aligns straight horizontal lines at the top and the bottom of the screen; horizontal rotation around the center.
- **Horizontal Shift(HSH).** Aligns the horizontal center of the picture to the horizontal center of the CRT.

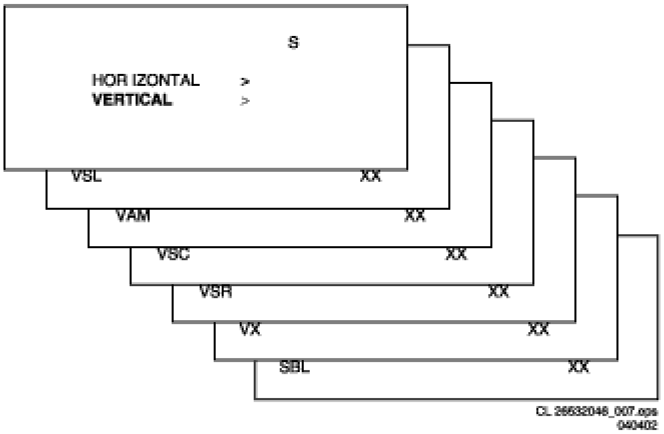


Figure: Vertical geometry alignment screens

Vertical:

- **Vertical slope (VSL).** Aligns the picture so the proportions are the same at the top and bottom of the screen. This alignment must be performed first, before all other vertical alignments. Turning SBL ON will assist in performing this alignment.
- **Vertical Amplitude(VAM).** Aligns the height of the picture (other vertical alignments are NOT compensated).
- **Vertical S-Correction(VSC).** Aligns the vertical linearity, so that the vertical intervals of the grid-patterns are the same over the entire height of the screen.
- **Vertical Shift(VSH).** Aligns the vertical center of the picture to the vertical center of the CRT. After performing this alignment, it may be necessary to perform the VAM alignment again.
- **Vertical Zoom(VX).** Adjusts picture height.
- **Service blanking(SBL).** Turns the blanking of the lower half of the screen ON or OFF (to be used in combination with the vertical slope alignment).

The table below lists the default GEOMETRY values for the different television sets.

Default Geometry Values

Alignment	**Description**	**13L100/85R Mono**	**19L135/37R**	**19L145/37R BTSC-NON-**	**19L145/85R BTSC-NON-**	**20L145/37R BTSC DBX**	**20L135/37R**
HP	Hor. Parallelogra	31	31	31	31	31	31
HB	Hor. Bow	31	31	31	31	31	31
HSH	Hor. S hift	23	23	23	23	23	23

VSL	Vert. Slope	31	38	31	31	31	31
VAM	Vert. Amplitude	26	34	26	26	26	26
VSC	Vert. S -correction	23	23	23	23	23	23
VSH	Vert. S hift	30	35	26	26	26	26
VX	Vert. Zoom	25	25	25	25	25	25

Audio

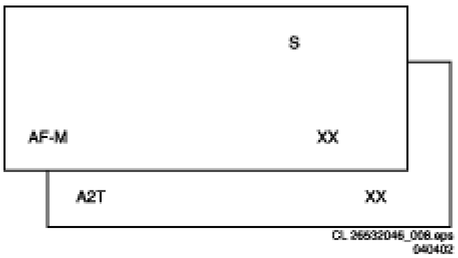


Figure: Audio alignment screens

No alignments are necessary for the AUDIO sub menu. Use the default values.

AF-M

Default value is 300.

To adjust AF-M:

1. Enter SDAM:
   - Press the following key sequence on the remote control transmitter: 0-6-2-5-9-6-MENU
   - Do not allow the display to time out between entries while keying the sequence.
2. Use the MENU UP/DOWN keys to highlight the AUDIO sub menu.
3. Press the MENU LEFT/RIGHT keys to enter the AUDIO sub menu.
4. Use the MENU UP/DOWN keys to select AF-M.
5. Use the MENU LEFT/RIGHT keys to adjust the value of AF-M to 300.
6. Press the MENU button to return to the top level SDAM menu.
7. To ensure the AF-M setting is saved:

- Turn the television set OFF by using the POWER button on the remote control transmitter or the local keyboard.
- Disconnect the television set from AC power for at least ten seconds.
- Reconnect the television set to AC power.
- Turn the television set ON by using the POWER button on the remote control transmitter or the local keyboard.

A2T (TV A2 Threshold)

Default value is 250.

To adjust A2T:

1. Enter SDAM:
   - Press the following key sequence on the remote control transmitter: 0-6-2-5-9-6-MENU
   - Do not allow the display to time out between entries while keying the sequence.
2. Use the MENU UP/DOWN keys to highlight the AUDIO sub menu.
3. Press the MENU LEFT/RIGHT keys to enter the AUDIO sub menu.
4. Use the MENU UP/DOWN keys to selectA2T.
5. Use the MENU LEFT/RIGHT keys to adjust the value of A2T to 250.
6. Press the MENU button to return to the top level SDAM menu.
7. To ensure the A2T setting is saved:
   - Turn the television set OFF by using the POWER button on the remote control transmitter or the local keyboard.
   - Disconnect the television set from AC power for at least ten seconds.
   - Reconnect the television set to AC power.
   - Turn the television set ON by using the POWER button on the remote control transmitter or the local keyboard.

Philips Consumer Electronics

Technical Service Data

Service and Quality
Service Publications Dept.
One Philips Drive
P.O. Box 14810
Knoxville, TN 37914

Manual 7628
Model no.: 19LT010L/35
First Publish: 12760 S8
Rev. Date: 2002-06-06
Print Date: 13/07/2007

Parts List

REFER TO SAFETY GUIDELINES

SAFETY NOTICE: ANY PERSON ATTEMPTING TO SERVICE THIS CHASSIS MUST FAMILIARIZE HIMSELF WITH THE CHASSIS AND BE AWARE OF THE NECESSARY SAFETY PRECAUTIONS TO BE USED WHEN SERVICING ELECTRONIC EQUIPMENT CONTAINING HIGH VOLTAGES.

CAUTION: USE A SEPARATE ISOLATION TRANSFORMER FOR THIS UNIT WHEN SERVICING

Main Chassis

		Main Chassis	
	CBA	Main Chassis	3139 187 17501
S	0127	2 Pin Fuse Socket	2422 088 00271
S	0138	IC clip for 7471	3104 031 22081
S	0140	Clip for 7402	3139 121 24581
	0211	2 Pin Connector	2422 025 16269
	0212	2 Pin Connector	2422 025 16375
	0217	3 Pin Connector	2412 020 00725
	0220	3 Pin Connector	2422 025 04851
	0221	4 Pin Connector	2422 025 15503
S	0222	2 Pin Connector	2422 025 10646
	0223	Socket, Cinch, 3 Pin	2422 026 05182
	0225	Socket, MDIN, 10 Pin	2422 026 04926
	0240	7 Pin Connector	2422 025 11244
	0243	6 Pin Connector	2422 025 04854
	0244	3 Pin Connector	2422 025 04851
	0245	6 Pin Connector	2422 025 04854
	0246	3 Pin Connector	2422 025 16383
	0251	3 Pin Connector	2412 020 00725
S	0254	9 Pin CRT Socket	2422 500 80076
	0259	5 Pin Connector	2422 025 15848
	0262	3 Pin Connector	2422 025 16937
S	1000	Tuner, V+U PLL	2422 542 90108
	1002	SAW Filter, 45.75 MHz	2422 549 44518
	1200	Ceramic Filter, 4.5 MHz	2422 549 40807
S	1500	Fuse, T4A, 250V	2422 086 10914
S	1515	Relay, 1P, 12V	2422 132 07444
	1600	Tact Switch	2422 128 02742
	1601	Tact Switch	2422 128 02742
	1602	Tact Switch	2422 128 02742
	1603	Tact Switch	2422 128 02742
	1606	Tact Switch	2422 128 02742
	1660	Crystal Resonator, 12 MHz, 20P	2422 543 01203
	2004	Cap, 47n, 10%, 25v, Ceramic	3198 023 04730
	2005	Cap, 10u, 20%, 50v, Electrolytic	3198 025 51090
	2006	Cap, 470u, 20%, 16v, Electrolytic	3198 025 24710
	2007	Cap, 100n, +80/-20%, 25v, Ceramic	3198 023 21040
	2008	Cap, 100u, 20%, 25v, Electrolytic	3198 025 31010
	2009	Cap, 22n, 10%, 25v, Ceramic	3198 017 32230
	2122	Cap, 330p, 10%, 50v, Ceramic	3198 017 33310
	2123	Cap, 2u2, +80/-20%, 10v, Ceramic	3198 017 22250
	2124	Cap, 330p, 10%, 50v, Ceramic	3198 017 33310
	2135	Cap, 22p, 5%, 50v, Ceramic	3198 016 32290
	2136	Cap, 22p, 5%, 50v, Ceramic	3198 016 32290
	2202	Cap, 100n, +80/-20%, 25v, Ceramic	3198 023 21040
	2203	Cap, 100n, +80/-20%, 25v, Ceramic	3198 023 21040
	2204	Cap, 100n, +80/-20%, 25v, Ceramic	3198 023 41040
	2205	Cap, 220n, +80/-20%, 25v, Ceramic	3198 023 22240
	2208	Cap, 100n, +80/-20%, 25v, Ceramic	3198 023 41040
	2209	Cap, 4u7, 20%, 50v, Electrolytic	3198 025 54780
	2210	Cap, 470n, +80/-20%, 10v, Ceramic	3198 017 44740
	2211	Cap, 470n, +80/-20%, 16v, Ceramic	3198 017 24740
	2216	Cap, 470u, 20%, 16v, Electrolytic	3198 025 24710
	2217	Cap, 22n, 10%, 25v, Ceramic	3198 017 32230
	2219	Cap, 220n, +80/-20%, 25v, Ceramic	3198 023 22240
	2220	Cap, 470n, 10%, 50v, Polyester	3198 014 04740
	2221	Cap, 22n, +80/-20%, 50v, Ceramic	3198 017 22230
	2226	Cap, 4n7, 10%, 50v, Ceramic	3198 017 34720
	2227	Cap, 1n2, 10%, 50v, Ceramic	2238 586 15624
	2228	Cap, 330p, 5%, 50v, Ceramic	3198 016 33310
	2229	Cap, 10u, 20%, 50v, Electrolytic	3198 025 51090
	2233	Cap, 820p, 5%, 50v, Ceramic	3198 016 08210
	2241	Cap, 1n5, 10%, 50v, Ceramic	3198 017 31520
	2242	Cap, 1u, +80/-20%, 10v, Ceramic	3198 017 41050
	2243	Cap, 2n2, 10%, 50v, Ceramic	3198 017 02220
	2244	Cap, 100n, 10%, 63v, Metalized Polyeste	2222 370 75104
	2245	Cap, 220n, +80/-20%, 25v, Ceramic	3198 023 22240
	2246	Cap, 4u7, 20%, 50v, Electrolytic	3198 025 54780
	2247	Cap, 470u, 20%, 16v, Electrolytic	3198 025 24710
	2248	Cap, 22n, 10%, 25v, Ceramic	3198 017 32230
	2249	Cap, 22n, 10%, 25v, Ceramic	3198 017 32230
	2250	Cap, 2u2, 20%, 50v, Electrolytic	3198 025 52280
	2252	Cap, 1n, 5%, 25v, Ceramic	3198 016 31020
	2253	Cap, 1n, 5%, 25v, Ceramic	3198 016 31020
	2254	Cap, 100p, 5%, 50v, Ceramic	3198 016 01010
	2313	Cap, 220p, 5%, 50v, Ceramic	3198 016 02210
	2323	Cap, 390p, 5%, 50v, Ceramic	3198 016 03910
	2331	Cap, 390p, 5%, 50v, Ceramic	3198 016 03910
	2341	Cap, 2n2, 10%, 1000v, Ceramic	2020 558 90571
	2342	Cap, 47n, 10%, 250v, Metalized Polyeste	2222 365 45473
	2343	Cap, 47n, 10%, 250v, Metalized Polyeste	2222 365 45473
	2401	Cap, 680p, 10%, 50v, Ceramic	3198 019 16810
	2402	Cap, 680n, 5%, 250v, Metalized Polypropylene	2222 479 90027
	2405	Cap, 1n, 5%, 50v, Ceramic	3198 016 01020
	2406	Cap, 330p, 5%, 50v, Ceramic	3198 016 03310
	2407	Cap, 10n, 5%, 1600v, Polypropylene	2020 301 90249
	2408	Cap, 22n, +80/-20%, 50v, Ceramic	3198 019 22230
	2409	Cap, 47u, 20%, 160v, Electrolytic	2020 021 91139
	2410	Cap, 470u, 20%, 16v, Electrolytic	2020 021 91577
	2411	Cap, 47u, 20%, 25v, Electrolytic	2020 021 90586
	2412	Cap, 33n, 10%, 100v, Polyester	2222 347 90236
	2413	Cap, 10u, 20%, 250v, Electrolytic	2020 012 93495
	2414	Cap, 1000u, 20%, 16v, Electrolytic	2020 021 91049
	2415	Res, 470 ohm, 5%, 1/10W, Metalized Glas	3198 021 54710
	2416	Cap, 820p, 10%, 2000v, Ceramic	2020 558 90486
	2417	Cap, 1000u, 20%, 16v, Electrolytic	2020 021 91049
	2418	Cap, 10n, 10%, 50v, Ceramic	3198 017 01030
	2419	Cap, 1u, 20%, 50v, Electrolytic	2020 021 91147
	2420	Cap, 1u, 20%, 50v, Electrolytic	3198 025 51080
	2422	Cap, 470u, 20%, 16v, Electrolytic	2020 021 91577
	2423	Cap, 10u, 20%, 100v, Electrolytic	2020 021 90813
	2425	Cap, 39p, 50v, Ceramic	3198 016 33990
	2471	Cap, 100n, 10%, 50v, Polyester	3198 014 01040
	2472	Cap, 100n, 10%, 50v, Polyester	3198 014 01040
	2473	Cap, 100u, 20%, 50v, Electrolytic	2020 021 90587
	2475	Cap, 470p, 5%, 50v, Ceramic	3198 016 04710
	2476	Cap, 220n, 10%, 50v, Polyester	3198 014 02240
	2477	Cap, 470p, 5%, 50v, Ceramic	3198 016 04710
	2500	Cap, 470n, 20%, 275v, Metalized Polypropylene	2022 330 00018
	2501	Cap, 2n2, 10%, 1000v, Ceramic	3198 019 52220
	2502	Cap, 2n2, 10%, 1000v, Ceramic	3198 019 52220
	2503	Cap, 220u, 20%, 200v, Electrolytic	2020 024 90557
	2506	Cap, 2n2, 10%, 1000v, Ceramic	3198 019 52220
	2508	Cap, 470p, 10%, 1000v, Ceramic	3198 019 64710
S	2515	Cap, 1n5, 20%, v, Ceramic	2020 554 90172
	2520	Cap, 100n, 10%, 16v, Ceramic	3198 017 01040
	2521	Cap, 22u, 20%, 50v, Electrolytic	3198 025 52290
	2522	Cap, 100n, 10%, 16v, Ceramic	3198 017 01040
	2523	Cap, 1n5, 10%, 2000v, Ceramic	2020 558 90489
	2525	Cap, 470p, 10%, 50v, Ceramic	3198 017 04710
	2526	Cap, 1n, 10%, 50v, Ceramic	3198 017 01020
	2527	Cap, 470p, 10%, 50v, Ceramic	3198 017 04710
	2540	Cap, 15n, 10%, 50v, Ceramic	3198 017 01530
	2560	Cap, 1n, 10%, 1000v, Ceramic	3198 019 61020
	2561	Cap, 47u, 20%, 160v, Electrolytic	2020 021 91358
	2562	Cap, 1n, 10%, 50v, Ceramic	3198 019 11020
	2563	Cap, 100n, 10%, 50v, Polyester	3198 014 01040
	2564	Cap, 2u2, 20%, 16v, Electrolytic	2020 012 93057
	2565	Cap, 470p, 10%, 1000v, Ceramic	3198 019 64710
	2567	Cap, 47u, 20%, 25v, Electrolytic	3198 025 34790
	2569	Cap, 470p, 10%, 50v, Ceramic	3198 017 04710
	2580	Cap, 47u, 20%, 25v, Electrolytic	3198 025 34790
	2601	Cap, 220n, +80/-20%, 25v, Ceramic	3198 023 22240
	2602	Cap, 100p, 5%, 50v, Ceramic	3198 016 01010
	2606	Cap, 1n, 10%, 50v, Ceramic	3198 017 01020
	2607	Cap, 33p, 5%, 50v, Ceramic	3198 016 03390
	2608	Cap, 1u, +80/-20%, 16v, Ceramic	3198 017 21050
	2609	Cap, 33p, 5%, 50v, Ceramic	3198 016 03390
	2611	Cap, 1u, +80/-20%, 16v, Ceramic	3198 017 21050
	2612	Cap, 68p, 5%, 50v, Ceramic	3198 016 06890
	2613	Cap, 68p, 5%, 50v, Ceramic	3198 016 06890
	2615	Cap, 1n, 10%, 50v, Ceramic	3198 017 01020
	2616	Cap, 470n, +80/-20%, 16v, Ceramic	3198 017 24740
	2618	Cap, 1u, +80/-20%, 16v, Ceramic	3198 017 21050
	2619	Cap, 1u, +80/-20%, 16v, Ceramic	3198 017 21050
	2691	Cap, 220u, 20%, 25v, Electrolytic	3198 025 32210
	2902	Cap, 220u, 20%, 50v, Electrolytic	3198 026 52210
	2903	Cap, 1u, 20%, 50v, Electrolytic	3198 025 51080
	2904	Cap, 1u, +80/-20%, 16v, Ceramic	3198 017 21050
	2905	Cap, 1n, 5%, 50v, Ceramic	3198 016 01020
	2908	Cap, 10u, 20%, 50v, Electrolytic	3198 025 51090
	2941	Cap, 10u, 20%, 50v, Electrolytic	3198 025 51090
	2950	Cap, 330p, 5%, 50v, Ceramic	3198 016 03310
	3000	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198 011 01010
	3001	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198 011 01010
	3002	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	3003	Res, 1K5, 5%, 1/10W, Metalized Glass	3198 021 51520
	3004	Res, 8K2, 5%, 1/16W, Metalized Glass	3198 021 38220
	3005	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198 011 01010
	3123	Res, 150 ohm, 5%, 1/6W, Carbon Film	3198 011 01510
	3124	RST SM 0603 47K PM5 COL	3198 021 34730
	3125	Res, 150 ohm, 5%, 1/6W, Carbon Film	3198 011 01510
	3126	RST SM 0603 47K PM5 COL	3198 021 34730
	3135	Res, 75 ohm, 5%, 1/6W, Carbon Film	3198 011 07590
	3136	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198 011 01010
	3137	Res, 75 ohm, 5%, 1/6W, Carbon Film	3198 011 07590
	3138	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198 011 01010
	3200	Res, 390 ohm, 5%, 1/6W, Carbon Film	3198 011 03910
	3201	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198 011 01010
	3202	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198 011 01010
	3203	Res, 100 ohm, 5%, 1/6W, Carbon Film	3198 011 01010
	3204	Res, 10K, 5%, 1/6W, Carbon Film	3198 011 01030
	3206	Res, 100K, 5%, 1/10W, Metalized Glass	3198 021 51040
	3207	Res, 1K, 5%, 1/6W, Carbon Film	3198 011 01020
	3208	Res, 220 ohm, 5%, 1/16W, Metalized Glas	3198 021 32210
	3209	Res, 68 ohm, 5%, 1/16W, Metalized Glass	3198 021 36890
	3212	Res, 470 ohm, 5%, 1/16W, Metalized Glas	3198 021 34710
	3213	Res, 560 ohm, 5%, 1/6W, Carbon Film	3198 011 05610
	3217	Res, 330K, 5%, 1/16W, Metalized Glass	3198 021 33340
	3218	Res, 82K, 5%, 1/16W, Metalized Glass	3198 021 38230
	3219	Res, 2K2, 5%, 1/16W, Metalized Glass	3198 021 32220

S = Safety Part   Be sure to use exact replacement part.

	Ref	Description	Part No.
	3226	Res, 560 ohm, 5%, 1/16W, Metalized Glas	3198 021 35610
	3232	Res, 3K9, 5%, 1/16W, Metalized Glass .	3198 021 33920
	3235	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
	3241	Res, 22K, 5%, 1/16W, Metalized Glass .	3198 021 32230
	3242	Res, 12K, 5%, 1/10W, Metalized Glass .	3198 021 51230
	3244	Res, 820 ohm, 5%, 1/6W, Carbon Film. .	3198 011 08210
	3245	Res, 39K, 5%, 1/16W, Metalized Glass .	3198 021 33930
	3246	Res, 10K, 5%, 1/16W, Metalized Glass .	3198 021 31030
	3247	Res, 220K, 5%, 1/10W, Metalized Glass.	3198 021 52240
	3248	Res, 27K, 5%, 1/16W, Metalized Glass .	3198 021 32730
	3249	Res, 820 ohm, 5%, 1/6W, Carbon Film. .	3198 011 08210
	3251	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
	3254	Res, 1M, 5%, 1/10W, Metalized Glass. .	3198 021 51050
	3256	Res, 1K, 5%, 1/16W, Metalized Glass. .	3198 021 31020
	3257	Res, 10M, 5%, 1/16W, Metalized Glass .	3198 021 31060
	3258	Res, 330K, 5%, 1/10W, Metalized Glass.	3198 021 53340
	3259	Res, 470K, 5%, 1/16W, Metalized Glass.	3198 021 34740
	3311	Res, 1K5, 5%, 1/10W, Metalized Glass .	3198 021 51520
	3312	Res, 330 ohm, 5%, 1/10W, Metalized Glas	3198 021 53310
	3313	Res, 10 ohm, 5%, 1/10W, Metalized Glass	3198 021 51090
S	3314	Res, 18k, 5%, Metal Oxide.	2120 105 93597
S	3316	Res, 68 ohm, 5%, 1/3W, Metal Film. . .	2306 204 03689
	3317	Res, 1K5, 20%, 1/2W, Carbon Film . . .	3198 013 01520
	3321	Res, 1K5, 5%, 1/10W, Metalized Glass .	3198 021 51520
	3322	Res, 330 ohm, 5%, 1/10W, Metalized Glas	3198 021 53310
	3323	Res, 10 ohm, 5%, 1/10W, Metalized Glass	3198 021 51090
S	3324	Res, 18k, 5%, Metal Oxide.	2120 105 93597
S	3326	Res, 68 ohm, 5%, 1/3W, Metal Film. . .	2306 204 03689
	3327	Res, 1K5, 20%, 1/2W, Carbon Film . . .	3198 013 01520
	3331	Res, 1K5, 5%, 1/10W, Metalized Glass .	3198 021 51520
	3332	Res, 330 ohm, 5%, 1/10W, Metalized Glas	3198 021 53310
	3333	Res, 10 ohm, 5%, 1/10W, Metalized Glass	3198 021 51090
S	3334	Res, 18k, 5%, Metal Oxide.	2120 105 93597
S	3336	Res, 68 ohm, 5%, 1/3W, Metal Film. . .	2306 204 03689
	3337	Res, 1K5, 20%, 1/2W, Carbon Film . . .	3198 013 01520
	3341	Res, 1K5, 20%, 1/2W, Carbon Film . . .	3198 013 01520
S	3347	Res, 220 ohm, 5%, 1/3W, Metal Film . .	2306 204 03221
	3348	Res, 1K5, 20%, 1/2W, Carbon Film . . .	3198 013 01520
S	3349	Res, 1R2, 5%, 1/3W, Metal Film	2306 204 03128
S	3350	Res, 1R2, 5%, 1/3W, Metal Film	2306 204 03128
	3401	Res, 330K, 5%, 1/2W, Metalized Glass .	2322 242 13334
	3402	Res, 18K, 5%, 1/6W, Carbon Film. . . .	3198 011 01830
S	3403	Res, 22 ohm, 5%, 3W, Metal Film. . . .	3198 012 32290
S	3404	Res, 6R8, 5%, 1/3W, Metal Film	2306 204 03688
	3406	Res, 10K, 5%, 1/6W, Carbon Film. . . .	3198 011 01030
S	3407	Res, 220 ohm, 5%, 3W, Metal Film . . .	3198 012 32210
	3408	Res, 1K, 5%, 1/6W, Carbon Film	3198 011 01020
	3410	Res, 33K, 5%, 1/10W, Metalized Glass .	3198 021 53330
S	3411	Res, 10 ohm, 5%, 1/3W, Metal Film. . .	2306 204 03109
	3412	Res, 3K3, 1%, 3/5W, Metal Film	2312 915 13302
	3414	Res, 1K5, 1%, 3/5W, Metal Film	2312 915 11502
	3415	Res, 1K, 5%, 1/6W, Carbon Film	3198 011 01020
S	3416	Res, 3R9, 5%, 1/2W, Metal Film	2306 207 03398
	3417	Res, 33K, 5%, 1/6W, Carbon Film. . . .	3198 011 03330
	3418	Res, 33K, 5%, 1/10W, Metalized Glass .	3198 021 53330
	3419	Res, 6K8, 5%, 1/10W, Metalized Glass .	3198 021 56820
	3420	Res, 33K, 5%, 1/10W, Metalized Glass .	3198 021 53330
S	3421	Res, 6R8, 5%, 2W, Metal Film	3198 012 26880
	3422	Res, 100 ohm, 5%, 1/10W, Metalized Glas	3198 021 51010
	3423	Res, 820 ohm, 5%, 1/10W, Metalized Glas	3198 021 58210
	3424	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
	3425	Res, 15K, 5%, 1/6W, Carbon Film. . . .	3198 011 01530
	3426	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	3427	Res, 12K, 5%, 1/6W, Carbon Film. . . .	3198 011 01230
S	3428	Res, 39 ohm, 5%, 1/2W, Metal Film. . .	2306 207 03399
	3431	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	3432	Res, 22 ohm, 5%, 1/6W, Carbon Film . .	3198 011 02290
	3433	Wire Jumper.	3198 036 90010
	3471	Res, 3R9, 1%, 3/5W, Metal Film	2312 915 13908
	3472	Res, 3R9, 1%, 3/5W, Metal Film	2312 915 13908
	3473	Res, 2K2, 1%, 3/5W, Metal Film	2312 915 12202
	3474	Res, 1K, 5%, 1/6W, Carbon Film	3198 011 01020
	3475	Res, 2K2, 1%, 3/5W, Metal Film	2312 915 12202
S	3476	Res, 1R5, 5%, 1/3W, Metal Film	2306 204 03158
	3477	Res, 220 ohm, 5%, 1/6W, Carbon Film. .	3198 011 02210
	3478	Res, 220 ohm, 5%, 1/6W, Carbon Film. .	3198 011 02210
	3479	Res, 1K, 5%, 1/6W, Carbon Film	3198 011 01020
	3500	Res, 3M3, 5%, 1/2W, Metalized Glass. .	2322 242 13335
	3501	Res, 3M3, 5%, 1/2W, Metalized Glass. .	2322 242 13335
S	3502	Res, NTC, 4R7, 20%, 3 1/10W.	2122 612 00055
S	3503	Res, PTC, 10R, Degaussing.	2120 661 00026
	3506	Res, 220 ohm, 20%, 1/2W, Carbon Film .	3198 013 02210
S	3507	Surge Protector, DSP-301N-A21F A . . .	2422 549 43073
	3508	Res, 1M5, 5%, 1/2W, Metalized Glass. .	2322 242 13155
	3519	Res, 270 ohm, 5%, 1/6W, Carbon Film. .	3198 011 02710
	3520	Res, 1K2, 5%, 1/10W, Metalized Glass .	3198 021 51220
	3521	Res, 4R7, 5%, 1/6W, Carbon Film. . . .	3198 011 04780
	3522	Res, 330K, 5%, 1/10W, Metalized Glass.	3198 021 53340
S	3523	Res, 100 ohm, 5%, 1/3W, Metal Film . .	2306 204 03101
	3524	Res, 56K, 5%, 1/10W, Metalized Glass .	3198 021 55630
	3525	Res, 1K, 5%, 1/10W, Metalized Glass. .	3198 021 51020
S	3526	Res, 0R15, 5%, 1W, Metal Film.	3198 012 11570
S	3527	Res, 2K2, 5%, 1/3W, Metal Film	2306 204 03222
	3528	Res, 10K, 5%, 1/10W, Metalized Glass .	3198 021 51030
	3529	Res, 47K, 5%, 1/10W, Metalized Glass .	3198 021 54730
	3530	Res, 4K7, 5%, 1/10W, Metalized Glass .	3198 021 54720
	3531	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	3541	Res, 470 ohm, 5%, 1/10W, Metalized Glas	3198 021 54710
	3542	Res, 1K5, 5%, 1/10W, Metalized Glass .	3198 021 51520
	3543	Res, 82K, 1%, 3/5W, Metal Film	2312 915 18203
	3544	Res, 6K8, 1%, 3/5W, Metal Film	2312 915 16802
	3545	Res, 82K, 5%, 1/10W, Metalized Glass .	3198 021 58230
S	3547	Res, 0R33, 5%, 1W, Metal Film.	3198 012 13370
	3548	Res, 8K2, 5%, 1/10W, Metalized Glass .	3198 021 58220
	3549	Res, 220 ohm, 5%, 1/6W, Carbon Film. .	3198 011 02210
S	3558	Res, 330 ohm, 5%, 1W, Metal Film . . .	3198 012 13310
	3561	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
	3562	Res, 10K, 5%, 1/10W, Metalized Glass .	3198 021 51030
	3563	Res, 4K7, 5%, 1/10W, Metalized Glass .	3198 021 54720
S	3564	Res, 6R8, 5%, 2W, Metal Film	3198 012 26880
	3580	Res, 47K, 5%, 1/10W, Metalized Glass .	3198 021 54730
	3591	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	3595	Res, 180K, 5%, 1/10W, Metalized Glass.	2120 108 30184
	3596	Res, 180K, 5%, 1/10W, Metalized Glass.	2120 108 30184
	3603	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
	3604	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
	3605	Res, 4K7, 5%, 1/10W, Metalized Glass .	3198 021 54720
	3606	Res, 2K2, 5%, 1/6W, Carbon Film. . . .	3198 011 02220
	3607	Res, 2K2, 5%, 1/6W, Carbon Film. . . .	3198 011 02220
	3608	Res, 470 ohm, 5%, 1/6W, Carbon Film. .	3198 011 04710
	3611	Res, 100 ohm, 5%, 1/10W, Metalized Glas	3198 021 51010
	3618	Res, 6K8, 5%, 1/6W, Carbon Film. . . .	3198 011 06820
	3622	Res, 470 ohm, 5%, 1/10W, Metalized Glas	3198 021 54710
	3623	Res, 4K7, 5%, 1/10W, Metalized Glass .	3198 021 54720
	3624	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
	3625	Res, 100 ohm, 5%, 1/6W, Carbon Film. .	3198 011 01010
	3626	Res, 4K7, 5%, 1/10W, Metalized Glass .	3198 021 54720
	3627	Res, 4K7, 5%, 1/10W, Metalized Glass .	3198 021 54720
	3628	Res, 10K, 5%, 1/10W, Metalized Glass .	3198 021 51030
	3630	Res, 2K2, 5%, 1/10W, Metalized Glass .	3198 021 52220
	3632	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	3636	Res, 100 ohm, 5%, 1/10W, Metalized Glas	3198 021 51010
	3639	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	3681	Res, 390 ohm, 5%, 1/10W, Metalized Glas	3198 021 53910
	3682	Res, 3K3, 5%, 1/10W, Metalized Glass .	3198 021 53320
	3683	Res, 390 ohm, 5%, 1/10W, Metalized Glas	3198 021 53910
	3684	Res, 560 ohm, 5%, 1/10W, Metalized Glas	3198 021 55610
	3685	Res, 560 ohm, 5%, 1/10W, Metalized Glas	3198 021 55610
	3686	Res, 1K5, 5%, 1/10W, Metalized Glass .	3198 021 51520
	3691	Res, 330 ohm, 5%, 1/10W, Metalized Glas	3198 021 53310
	3693	Res, 220 ohm, 5%, 1/10W, Metalized Glas	3198 021 52210
	3901	Res, 1K, 5%, 1/10W, Metalized Glass. .	3198 021 51020
	3902	Res, 3K3, 5%, 1/10W, Metalized Glass .	3198 021 53320
	3903	Res, 8K2, 5%, 1/10W, Metalized Glass .	3198 021 58220
	3904	Res, 10K, 5%, 1/10W, Metalized Glass .	3198 021 51030
	3907	Res, 8K2, 5%, 1/10W, Metalized Glass .	3198 021 58220
	4001	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	4002	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	4121	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	4133	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	4181	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	4212	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	4216	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	4217	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	4410	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	4411	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	4501	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	4562	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	4604	Res, 3K3, 5%, 1/10W, Metalized Glass .	3198 021 53320
	4613	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	4614	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	4615	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	4616	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	4617	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	4619	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	4622	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	4623	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	4691	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	4692	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	4693	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	4696	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	4808	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	4809	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	4811	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	4812	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	4813	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	4814	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	4901	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	4911	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	4941	Res, Zero ohm, "Chip" Jumper	3198 021 90030
	4982	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	5001	Coil, 5u6.	3198 018 25680
	5002	Coil, 820n	3198 018 18270
	5201	Coil, 6u8.	3198 018 16880

S = Safety Part   Be sure to use exact replacement part.

	Ref	Description	Part No.
	5202	Coil, 10u.	3198 018 21090
	5241	Coil, 10u.	3198 018 21090
	5242	Coil, 10u.	3198 018 11090
	5341	Coil, 22u.	2422 535 95365
	5342	Bead Inductor, 100 MHz, 50 ohm	3198 018 90010
	5408	Coil, 27u.	2422 535 95366
	5410	Coil, 27u.	2422 535 95366
	5444	Transformer, Signal Driver, SC10009-03	2422 531 02446
S	5445	Transformer, LOT	3128 138 21541
	5502	AC Filter, 5MH, 1A, C914-01 Y.	2422 549 44284
S	5520	Transformer, SMT Layer, SS28011-04 B	2422 531 02458
	5521	Bead Inductor, 100 MHz, 50 ohm	3198 018 90010
	5560	Bead Inductor, 100 MHz, 50 ohm	3198 018 90010
	5561	Coil, 27u.	3198 018 22790
	5562	Bead Inductor, 100 MHz, 50 ohm	3198 018 90010
	5563	Bead Inductor, 100 MHz, 50 ohm	3198 018 90010
	5602	Coil, 5u6.	3198 018 15680
	5603	Coil, 5u6.	3198 018 15680
	5604	Coil, 5u6.	3198 018 15680
	6001	Zener Diode, 33 volt	3198 010 23390
	6201	Diode, Signal, BAS316.	3198 010 10630
	6202	Diode, Signal, BAS316.	3198 010 10630
	6206	Zener Diode, 6.8 volt.	3198 020 56880
	6241	Zener Diode, 6.8 volt.	3198 020 56880
	6311	Diode, Signal, BAV21	3198 010 10070
	6321	Diode, Signal, BAV21	3198 010 10070
	6331	Diode, Signal, BAV21	3198 010 10070
	6341	Diode, Signal, BAV21	3198 010 10070
	6342	Diode, Signal, BA282	9337 587 20673
	6343	Zener Diode, 8.2 volt.	3198 020 58280
	6344	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	6401	Diode, Signal, BAV21	3198 010 10070
	6402	Diode, Rect, BYV27-200	9322 126 72673
	6404	Diode, Rect, BYV97G.	9335 214 80133
	6405	Diode, Rect, BYV95A.	9335 000 90133
	6406	Diode, Signal, BAV70	9331 849 10215
	6407	Diode, Signal, BAS316.	3198 010 10630
	6408	Diode, Signal, BAS316.	3198 010 10630
	6409	Diode, Rect, BYV95A.	9335 000 90133
	6410	Diode, Rect, BYV95A.	9335 000 90133
	6413	Diode, Signal, 1N4148.	3198 010 10010
	6414	Zener Diode, 6.2 volt.	9331 668 30133
	6415	Diode, Signal, BAS316.	3198 010 10630
	6419	Zener Diode, 5.6 volt.	9331 177 30133
	6420	Zener Diode, 9.1 volt.	9331 177 80133
	6423	Diode, Rect, BYV95A.	9335 000 90133
	6471	Diode, Rect, BYV95A.	9335 000 90133
	6500	Diode, Rect, 1N5062.	3198 010 10120
	6501	Diode, Rect, 1N5062.	3198 010 10120
	6502	Diode, Rect, 1N5062.	3198 010 10120
	6503	Diode, Rect, 1N5062.	3198 010 10120
	6520	Diode, Rect, BYV95A.	9335 000 90133
	6523	Diode, Signal, 1N4148.	3198 010 10010
	6540	Zener Diode, 6.2 volt.	9331 668 30133
	6541	Zener Diode, 9.1 volt.	9331 177 80133
	6560	Diode, Rect, BYW76-RAS15/10.	9322 187 13682
	6561	Diode, Rect, BYW76-RAS15/10.	9322 187 13682
	6562	Diode, Rect, EGP20DL-5100.	9322 164 42682
	6563	Diode, Signal, BAS316.	3198 010 10630
	6565	Diode, Signal, BAV70	9331 849 10215
	6580	Diode, Signal, BAS316.	3198 010 10630
	6681	Diode, Signal, BAT85	9336 247 60133
	6691	LED, LTL-10234WHCR	9322 185 69682
	6692	IR Receiver, TSOP1836UH1	9322 127 54667
	6901	Res, Zero ohm, "Chip" Jumper	3198 021 90020
	7200	IC, TDA9587H/N1/3.	9352 693 08557
	7200	IC, TDA9587H/N1/3/0637	4835 310 57619
	7201	Transistor, NPN, BC847B(COL)	3198 010 42030
	7204	Transistor, PNP, BC857B(COL)	3198 010 42150
	7241	Transistor, PNP, PDTA114ET	3198 010 44010
	7311	Transistor, NPN, BF422(COL).	3198 020 43010
	7312	Transistor, NPN, BF422(COL).	3198 020 43010
	7313	Transistor, PNP, BF423(COL).	3198 020 43020
	7321	Transistor, NPN, BF422(COL).	3198 020 43010
	7322	Transistor, NPN, BF422(COL).	3198 020 43010
	7323	Transistor, PNP, BF423(COL).	3198 020 43020
	7331	Transistor, NPN, BF422(COL).	3198 020 43010
	7332	Transistor, NPN, BF422(COL).	3198 020 43010
	7333	Transistor, PNP, BF423(COL).	3198 020 43020
	7401	Transistor, NPN, PDTC143ZT	9340 547 00215
	7402	Transistor, NPN, BUT11APX.	9340 563 21127
	7403	Transistor, NPN, BC337-25(COL)	3198 020 43530
	7404	Transistor, PNP, BC327-25(COL)	3198 020 43430
	7405	Transistor, PNP, BC857B(COL)	3198 010 42150
	7406	Transistor, PNP, BC857B(COL)	3198 010 42150
	7407	Transistor, NPN, BD135	3198 020 41010
	7408	Transistor, NPN, BD135	3198 020 41010
	7409	Transistor, PNP, BC857B(COL)	3198 010 42150
	7471	IC, TDA9302H	9322 088 25682
S	7515	Optical Coupler, TCET1103(G)	9322 175 72667
	7520	IC, TEA1507P/N1.	9352 673 56112
S	7521	Power FET, STP5NC50FP.	9322 160 71687
	7522	Transistor, NPN, BC847B(COL)	3198 010 42030
	7540	Transistor, NPN, BC547B(COL)	3198 020 40030
	7560	IC, L78L33ACZ.	9322 134 92676
	7561	Transistor, NPN, PDTC143ZT	9340 547 00215
	7580	Transistor, PNP, BC857B(COL)	3198 010 42150
	7602	IC, M24C16-WBN6.	9322 147 25682
	7902	IC, AN7523N.	9322 181 42682
	9001	Wire Jumper.	3198 036 90010
	9121	Wire Jumper.	3198 036 90010
	9171	Wire Jumper.	3198 036 90010
	9172	Wire Jumper.	3198 036 90010
	9173	Wire Jumper.	3198 036 90010
	9174	Wire Jumper.	3198 036 90010
	9175	Wire Jumper.	3198 036 90010
	9177	Wire Jumper.	3198 036 90010
	9182	Wire Jumper.	3198 036 90010
	9183	Wire Jumper.	3198 036 90010
	9191	Wire Jumper.	3198 036 90010
	9192	Wire Jumper.	3198 036 90010
	9193	Wire Jumper.	3198 036 90010
	9301	Wire Jumper.	3198 036 90010
	9302	Wire Jumper.	3198 036 90010
	9303	Wire Jumper.	3198 036 90010
	9304	Wire Jumper.	3198 036 90010
	9402	Wire Jumper.	3198 036 90010
	9403	Wire Jumper.	3198 036 90010
	9404	Wire Jumper.	3198 036 90010
	9420	Wire Jumper.	3198 036 90010
	9421	Wire Jumper.	3198 036 90010
	9425	Wire Jumper.	3198 036 90010
	9426	Wire Jumper.	3198 036 90010
	9427	Wire Jumper.	3198 036 90010
	9428	Wire Jumper.	3198 036 90010
	9430	Wire Jumper.	3198 036 90010
	9431	Wire Jumper.	3198 036 90010
	9432	Wire Jumper.	3198 036 90010
	9433	Wire Jumper.	3198 036 90010
	9434	Wire Jumper.	3198 036 90010
	9471	Wire Jumper.	3198 036 90010
	9500	Wire Jumper.	3198 036 90010
	9501	Wire Jumper.	3198 036 90010
	9504	Wire Jumper.	3198 036 90010
	9505	Wire Jumper.	3198 036 90010
	9506	Wire Jumper.	3198 036 90010
	9507	Wire Jumper.	3198 036 90010
	9508	Wire Jumper.	3198 036 90010
	9509	Wire Jumper.	3198 036 90010
	9510	Wire Jumper.	3198 036 90010
	9511	Wire Jumper.	3198 036 90010
	9512	Wire Jumper.	3198 036 90010
	9513	Wire Jumper.	3198 036 90010
	9514	Wire Jumper.	3198 036 90010
	9517	Wire Jumper.	3198 036 90010
	9520	Wire Jumper.	3198 036 90010
	9521	Wire Jumper.	3198 036 90010
	9522	Wire Jumper.	3198 036 90010
	9523	Wire Jumper.	3198 036 90010
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	9612	Wire Jumper.	3198 036 90010
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	9615	Wire Jumper.	3198 036 90010
	9616	Wire Jumper.	3198 036 90010
	9617	Wire Jumper.	3198 036 90010
	9619	Wire Jumper.	3198 036 90010
	9620	Wire Jumper.	3198 036 90010
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	9623	Wire Jumper.	3198 036 90010
	9624	Wire Jumper.	3198 036 90010
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	9627	Wire Jumper.	3198 036 90010
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	9631	Wire Jumper.	3198 036 90010
	9632	Wire Jumper.	3198 036 90010
	9633	Wire Jumper.	3198 036 90010
	9634	Wire Jumper.	3198 036 90010
	9637	Wire Jumper.	3198 036 90010
	9638	Wire Jumper.	3198 036 90010
	9639	Wire Jumper.	3198 036 90010
	9640	Wire Jumper.	3198 036 90010
	9641	Wire Jumper.	3198 036 90010
	9642	Wire Jumper.	3198 036 90010
	9643	Wire Jumper.	3198 036 90010
	9644	Wire Jumper.	3198 036 90010
	9645	Wire Jumper.	3198 036 90010
	9648	Wire Jumper.	3198 036 90010
	9650	Wire Jumper.	3198 036 90010

S = Safety Part   Be sure to use exact replacement part.

	Ref	Description	Part No.
	9653	Bead Inductor, 100 MHz, 80 ohm	3198 018 90020
	9654	Wire Jumper	3198 036 90010
	9657	Wire Jumper	3198 036 90010
	9658	Wire Jumper	3198 036 90010
	9659	Wire Jumper	3198 036 90010
	9660	Wire Jumper	3198 036 90010
	9661	Wire Jumper	3198 036 90010
	9662	Wire Jumper	3198 036 90010
	9663	Wire Jumper	3198 036 90010
	9664	Wire Jumper	3198 036 90010
	9665	Wire Jumper	3198 036 90010
	9666	Wire Jumper	3198 036 90010
	9668	Wire Jumper	3198 036 90010
	9669	Wire Jumper	3198 036 90010
	9670	Wire Jumper	3198 036 90010
	9672	Wire Jumper	3198 036 90010
	9673	Wire Jumper	3198 036 90010
	9674	Wire Jumper	3198 036 90010
	9675	Wire Jumper	3198 036 90010
	9676	Wire Jumper	3198 036 90010
	9678	Wire Jumper	3198 036 90010
	9679	Wire Jumper	3198 036 90010
	9680	Wire Jumper	3198 036 90010
	9682	Wire Jumper	3198 036 90010
	9683	Wire Jumper	3198 036 90010
	9684	Wire Jumper	3198 036 90010
	9686	Wire Jumper	3198 036 90010
	9687	Wire Jumper	3198 036 90010
	9688	Wire Jumper	3198 036 90010
	9689	Wire Jumper	3198 036 90010
	9690	Wire Jumper	3198 036 90010
	9691	Wire Jumper	3198 036 90010
	9692	Wire Jumper	3198 036 90010
	9693	Wire Jumper	3198 036 90010
	9695	Wire Jumper	3198 036 90010
	9697	Wire Jumper	3198 036 90010
	9698	Wire Jumper	3198 036 90010
	9699	Wire Jumper	3198 036 90010
	9811	Wire Jumper	3198 036 90010
	9812	Wire Jumper	3198 036 90010
	9813	Wire Jumper	3198 036 90010
	9814	Wire Jumper	3198 036 90010
	9815	Wire Jumper	3198 036 90010
	9816	Wire Jumper	3198 036 90010
	9817	Wire Jumper	3198 036 90010
	9818	Wire Jumper	3198 036 90010
	9820	Wire Jumper	3198 036 90010
	9821	Wire Jumper	3198 036 90010
	9822	Wire Jumper	3198 036 90010
	9824	Wire Jumper	3198 036 90010
	9825	Wire Jumper	3198 036 90010
	9826	Wire Jumper	3198 036 90010
	9827	Wire Jumper	3198 036 90010
	9828	Wire Jumper	3198 036 90010
	9829	Wire Jumper	3198 036 90010
	9830	Wire Jumper	3198 036 90010
	9832	Wire Jumper	3198 036 90010
	9901	Wire Jumper	3198 036 90010
	9902	Wire Jumper	3198 036 90010
	9911	Wire Jumper	3198 036 90010
	9912	Wire Jumper	3198 036 90010
	9915	Wire Jumper	3198 036 90010
	9916	Wire Jumper	3198 036 90010
	9917	Wire Jumper	3198 036 90010
	9921	Wire Jumper	3198 036 90010
	9991	Wire Jumper	3198 036 90010
	9993	Wire Jumper	3198 036 90010
	9994	Wire Jumper	3198 036 90010
	9996	Wire Jumper	3198 036 90010
	9997	Wire Jumper	3198 036 90010
	9998	Wire Jumper	3198 036 90010

Cabinet Parts

	Ref	Description	Part No.
		Cabinet Parts	
S	AC01	AC Cord	3135 010 06201
	AC03	Cabinet Back	3139 124 45191
S	AC08	CRT, A48EAK02X110	9301 885 00361
	AC09	Customer Control Buttons	3139 124 27442
S	AC10	Degaussing Coil	2422 549 44428
	AC11	Degaussing Coil Holder (4 Used)	3135 013 01641
	AC12	Owner's Manual	3135 125 21431
	AC17	Cabinet Front Assembly	3121 237 52531
	AC17A	Cabinet Front	3135 017 04081
	AC17B	Power Button	3139 124 27602
	AC17C	Light Guide	3139 124 27451
	AC17E	Chassis Guide, Left	3135 014 00681
	AC17F	Chassis Guide, Right	3135 014 00691
	AC17G	Nameplate	3135 015 03551
	AC17I	Power Button Bracket	3135 121 20061
	AC17J	Speaker, 16 ohm, 4W, Full Range	2422 264 00399
S	AC16	Deflection Yoke, AT6036/K10	3306 133 24791

Healthcare Module

	Ref	Description	Part No.
		Healthcare Module	
	CBA	Healthcare Module	3139 187 18071

S = Safety Part Be sure to use exact replacement part.

Philips Consumer Electronics

Technical Service Data

Service and Quality
Service Publications Dept.
One Philips Drive
P.O. Box 14810
Knoxville, TN 37914

Manual 7628
Model no.: 19LT010L/35
First Publish: 12760 S8
Rev. Date: 2002-06-06
Print Date: 13/07/2007

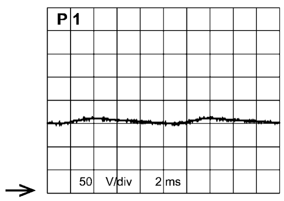
Scope Patterns

REFER TO SAFETY GUIDELINES

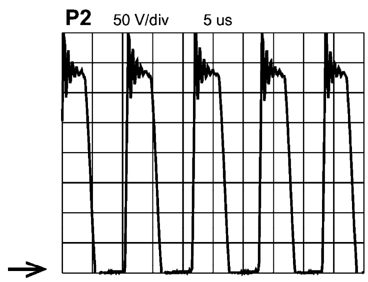
SAFETY NOTICE: **ANY PERSON ATTEMPTING TO SERVICE THIS CHASSIS MUST FAMILIARIZE HIMSELF WITH THE CHASSIS AND BE AWARE OF THE NECESSARY SAFETY PRECAUTIONS TO BE USED WHEN SERVICING ELECTRONIC EQUIPMENT CONTAINING HIGH VOLTAGES.**

CAUTION: USE A SEPARATE ISOLATION TRANSFORMER FOR THIS UNIT WHEN SERVICING

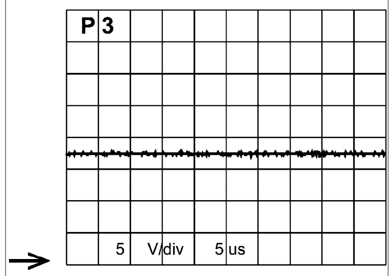
$: For Mains @ 120VAC
170V (177V)
: Voltages taken with regard to "HOT" Ground



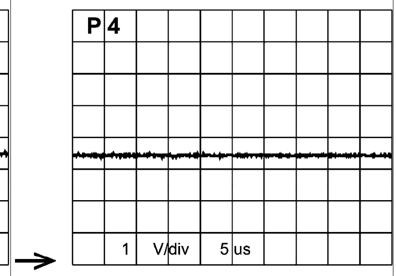
P 1



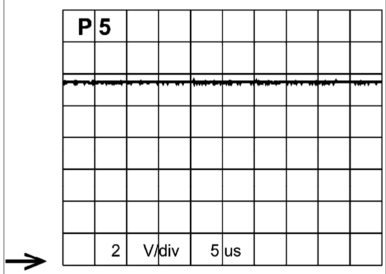
P 2



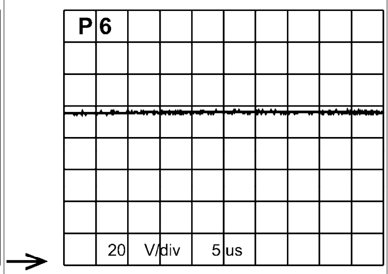
P 3



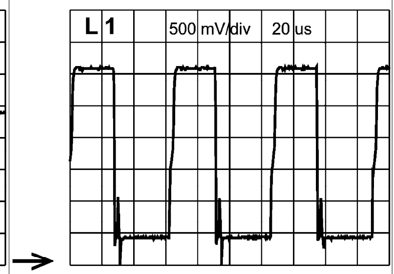
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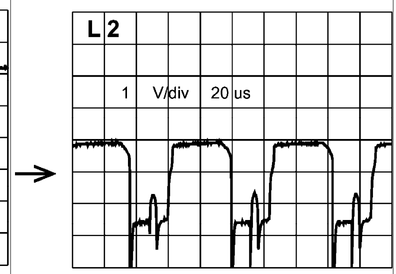
P 5



P 6



L 1



L 2

L3

90V8

L 3

L4

12V4

L 4

L5

5V

L 5

L6

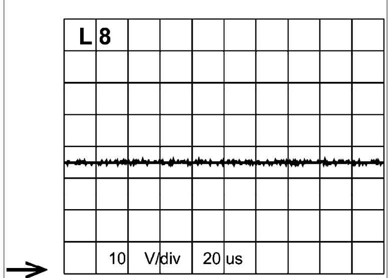
8V

L 6

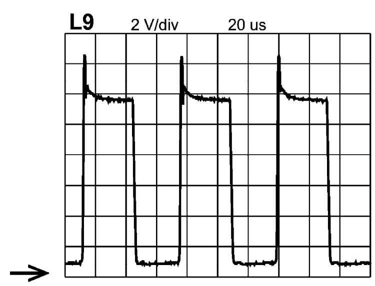
L7

-13V

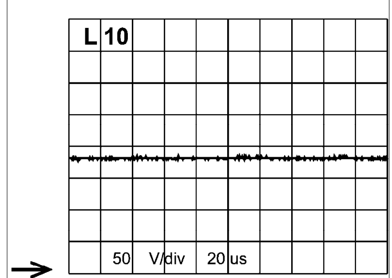
L 7



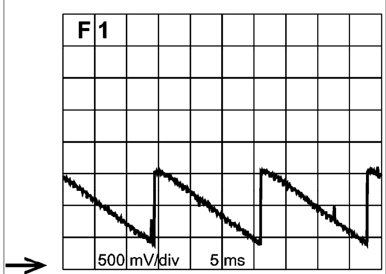
L 8



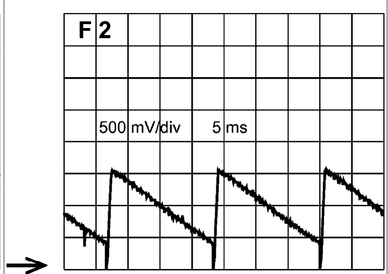
L 9



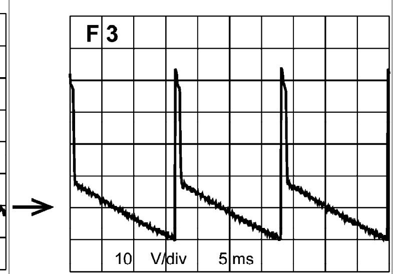
L10



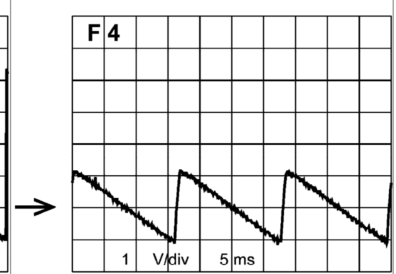
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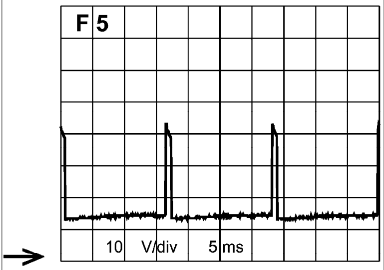
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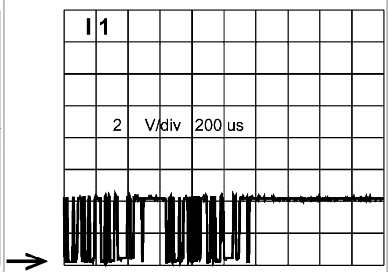
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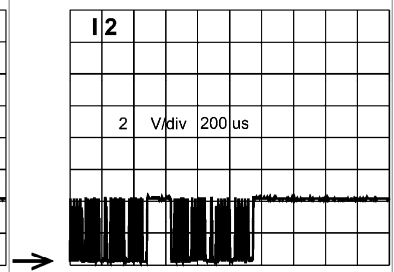
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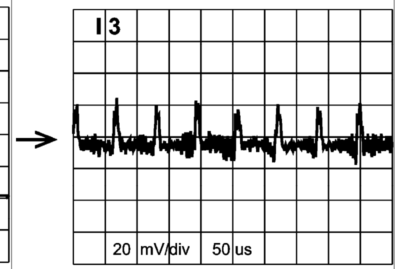
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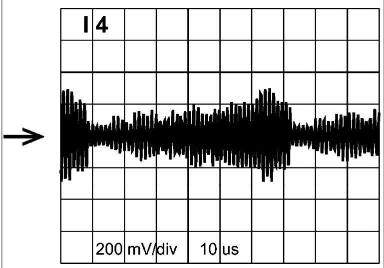
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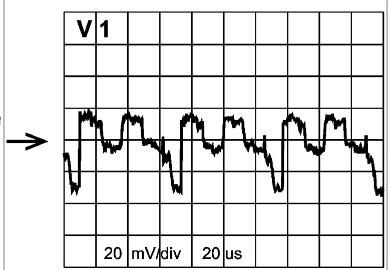
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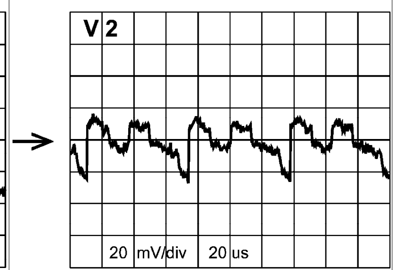
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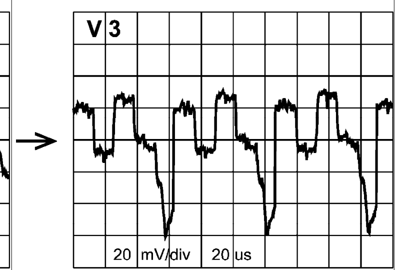
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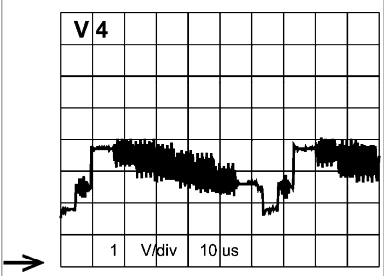
V 1



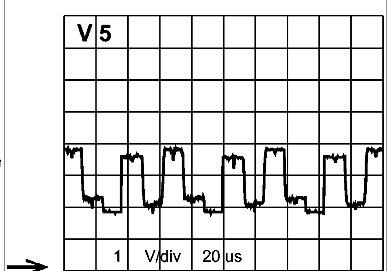
V 2



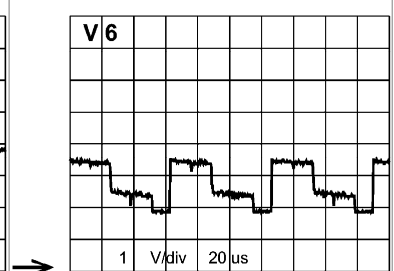
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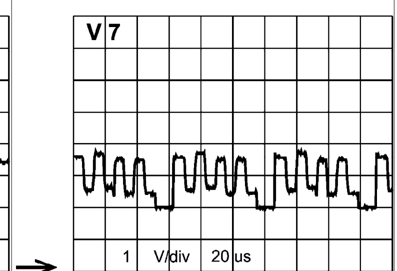
V 4



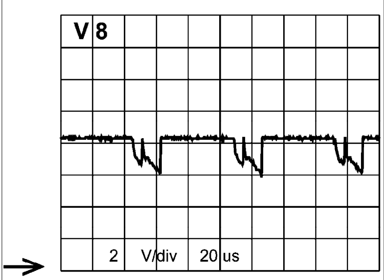
V 5



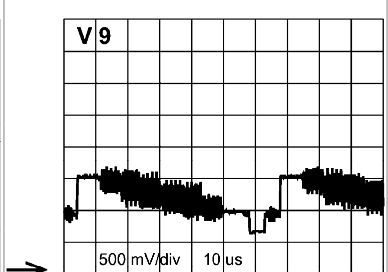
V 6



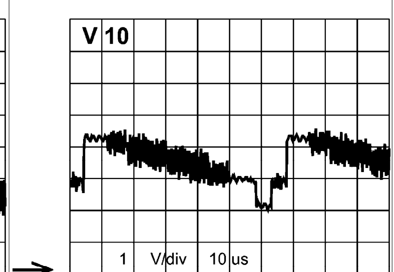
V 7



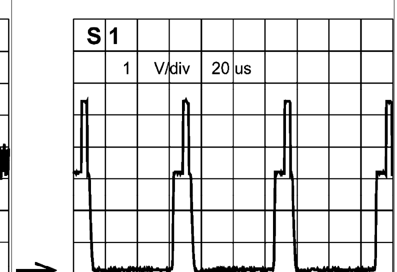
V 8



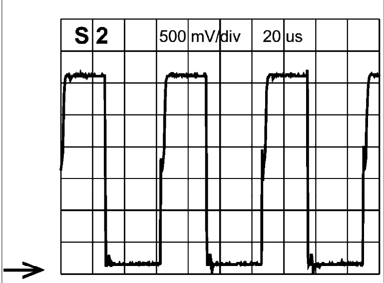
V 9



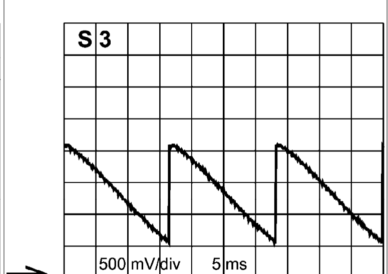
V10



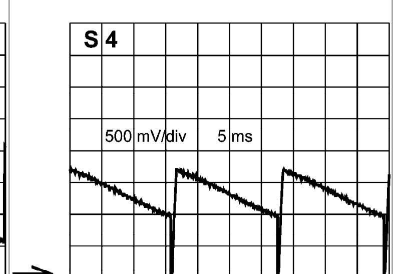
S 1



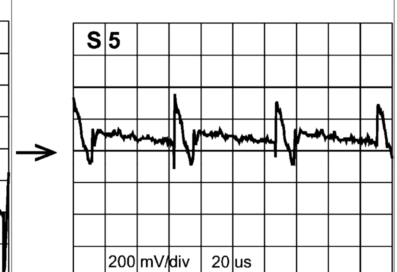
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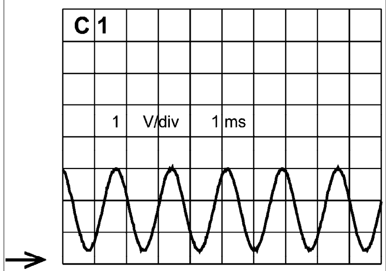
S 3



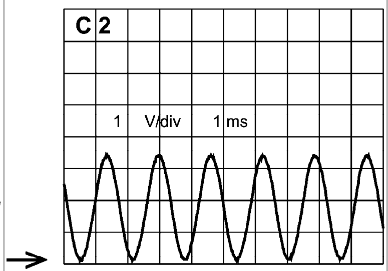
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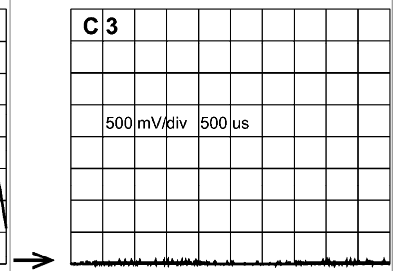
S 5



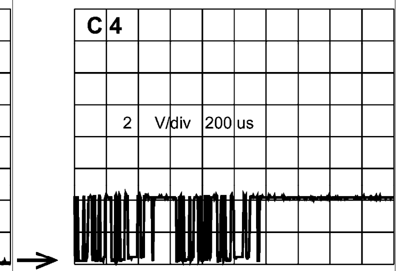
C 1



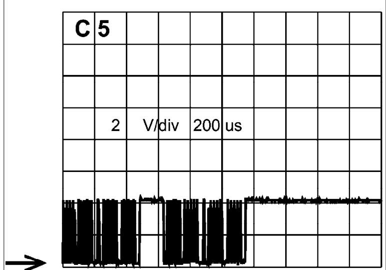
C 2



C 3



C 4



C 5

A1

5V2

A 1

A2

5V2

A 2

A3

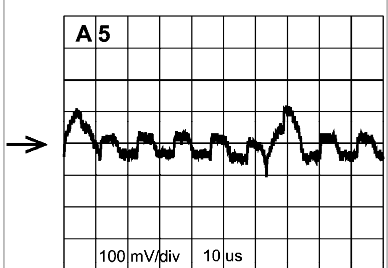
5V2

A 3

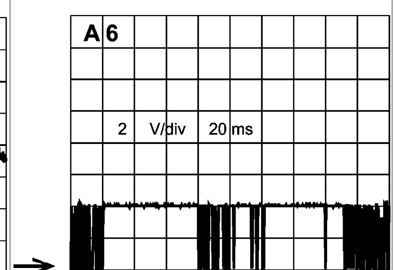
A4

5V2

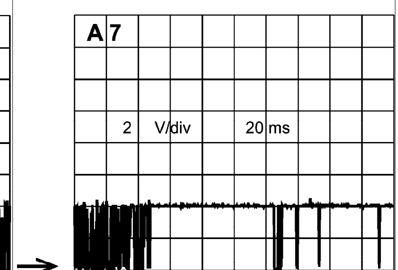
A 4



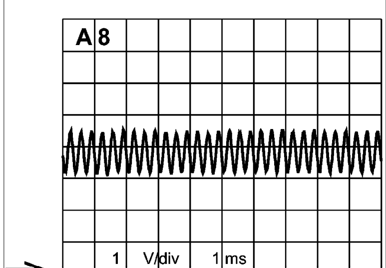
A 5



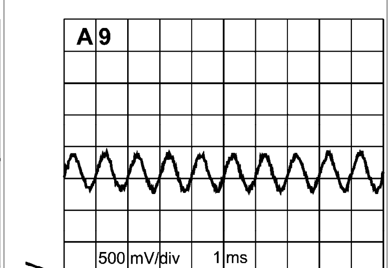
A 6



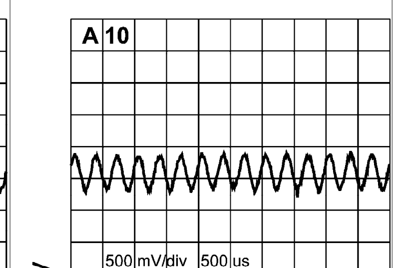
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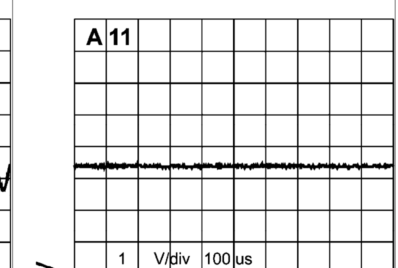
A 8



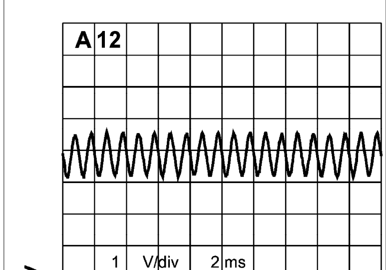
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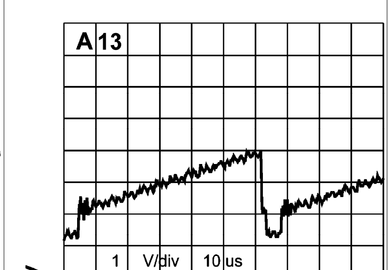
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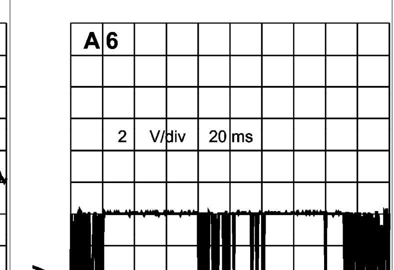
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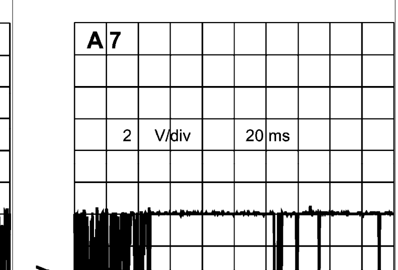
A12



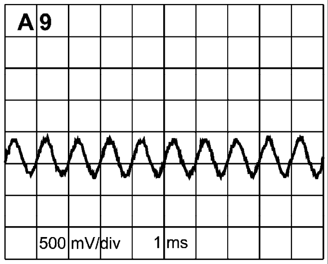
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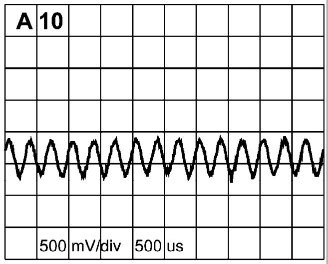
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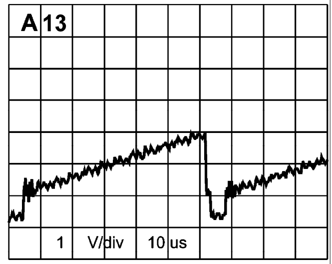
A 7



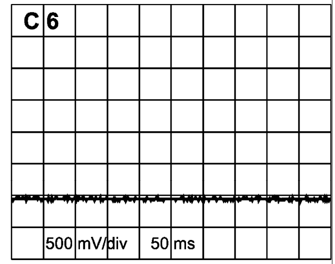
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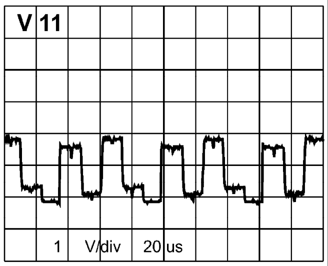
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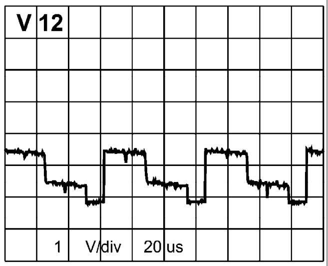
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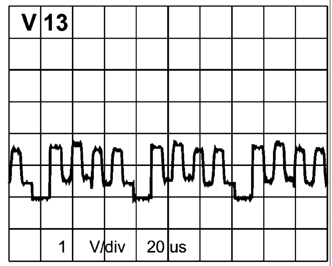
C 6



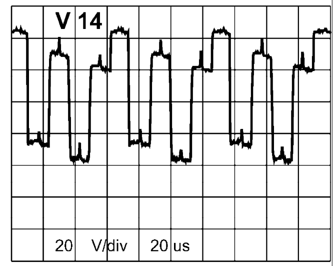
V11



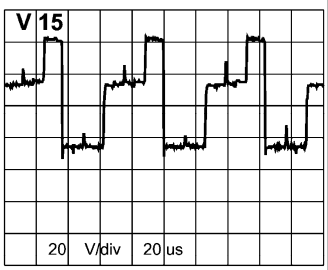
V12



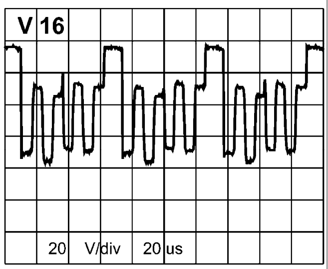
V13



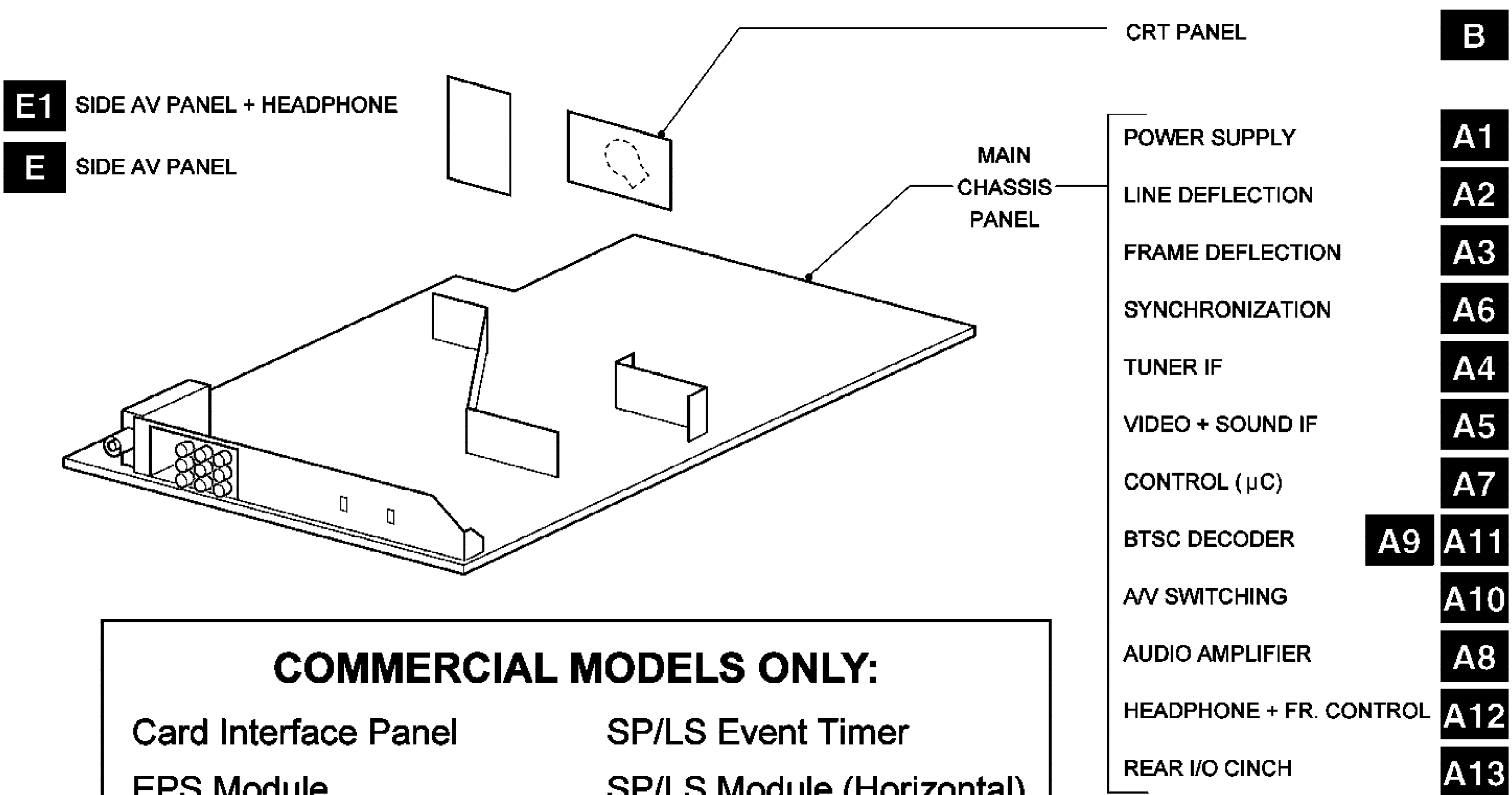
V14



V15



V16

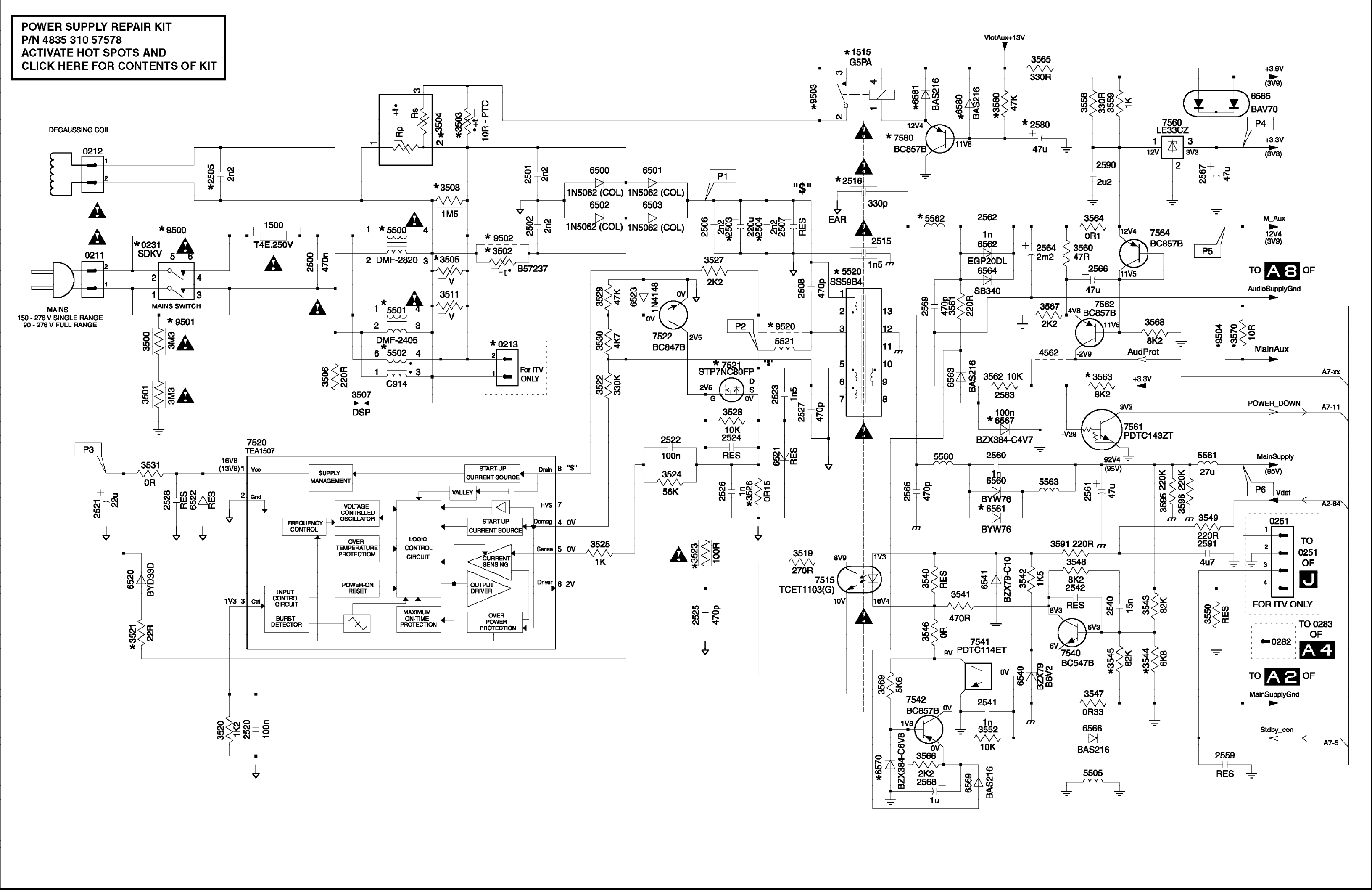


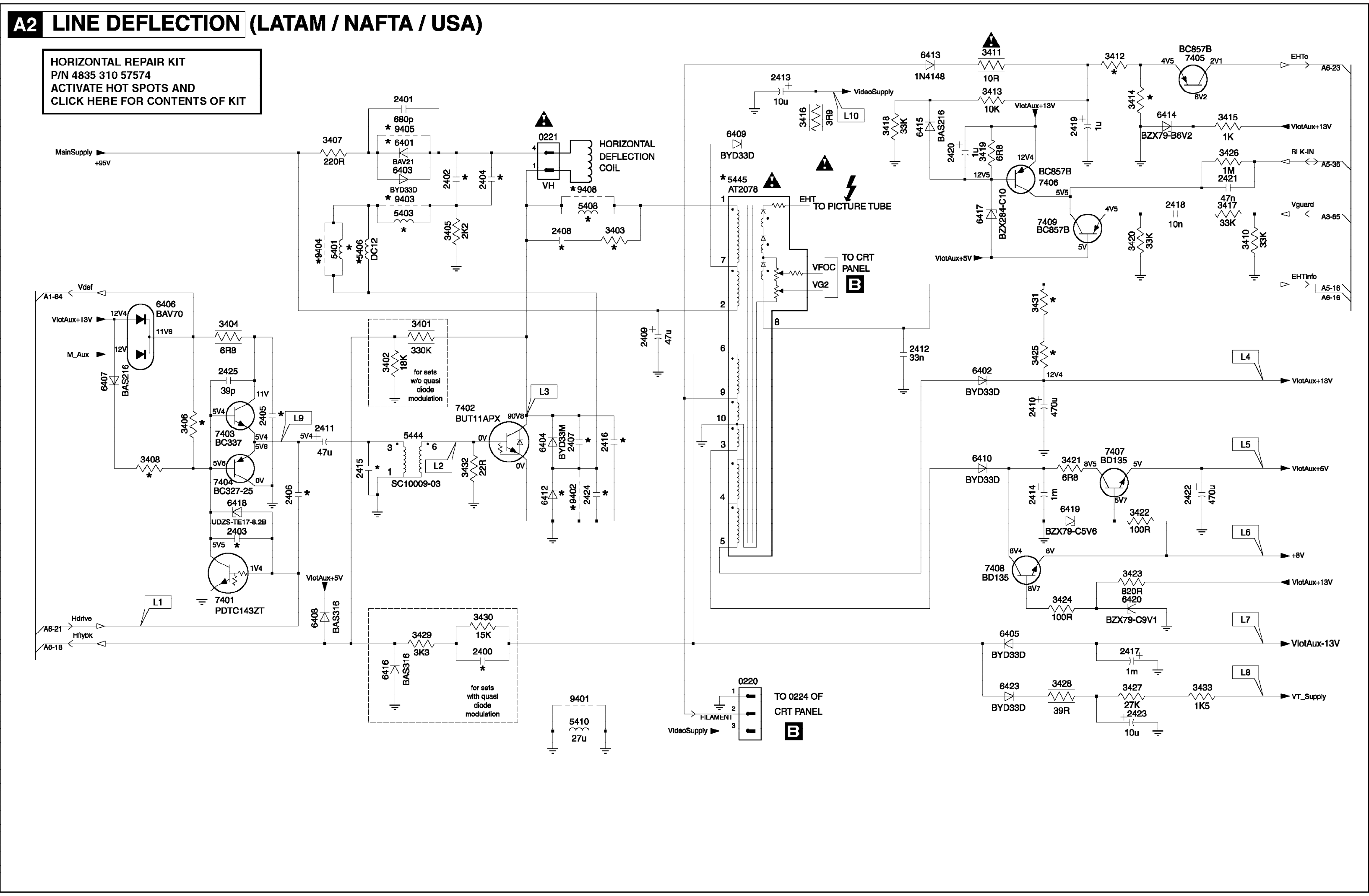
COMMERCIAL MODELS ONLY:

Card Interface Panel	SP/LS Event Timer
EPS Module	SP/LS Module (Horizontal)
Healthcare Module	SP/LS Module (Vertical)
Interface Panel (ITV)	

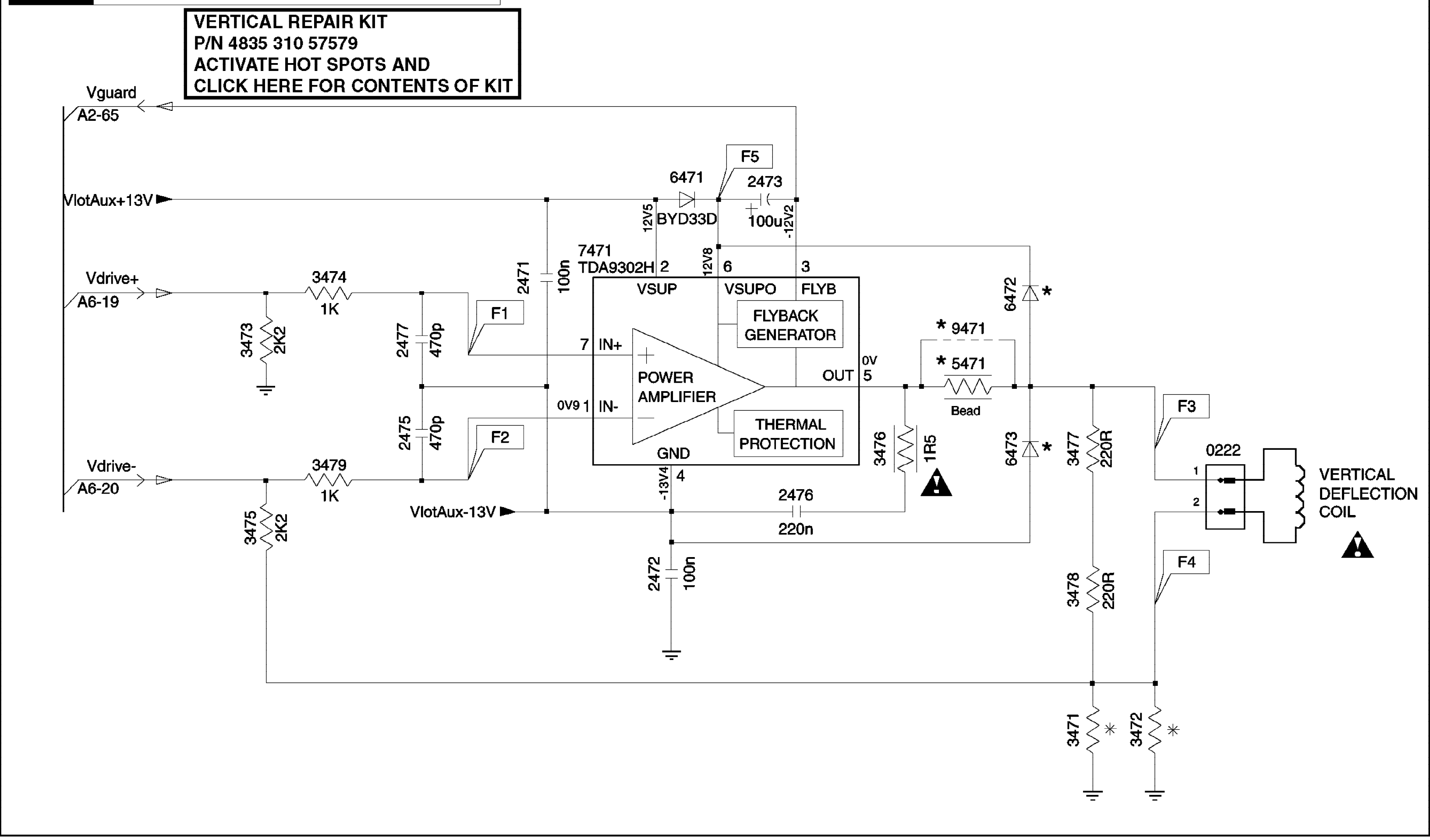
A1 POWER SUPPLY (LATAM / NAFTA / AP)

POWER SUPPLY REPAIR KIT
P/N 4835 310 57578
ACTIVATE HOT SPOTS AND
CLICK HERE FOR CONTENTS OF KIT

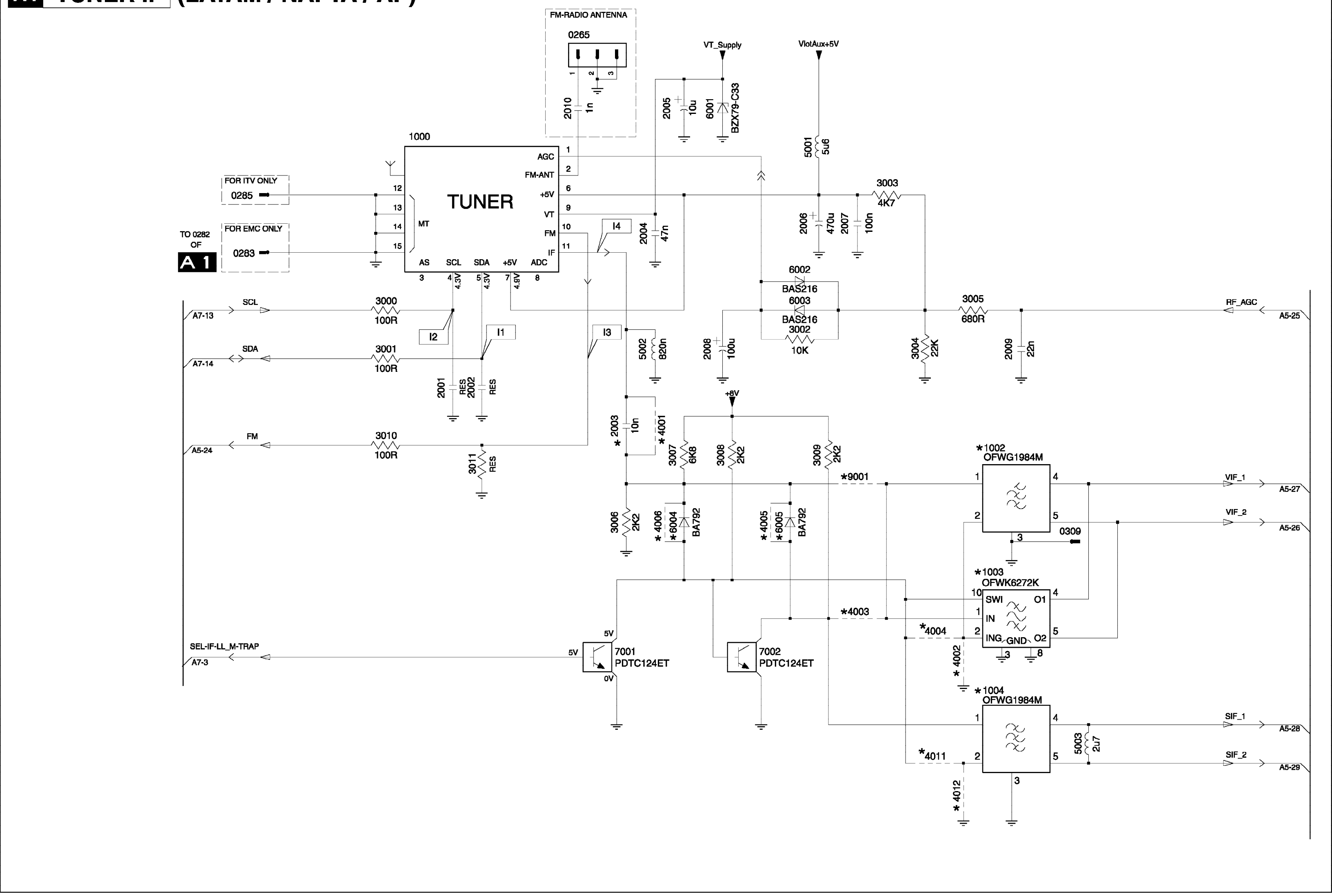


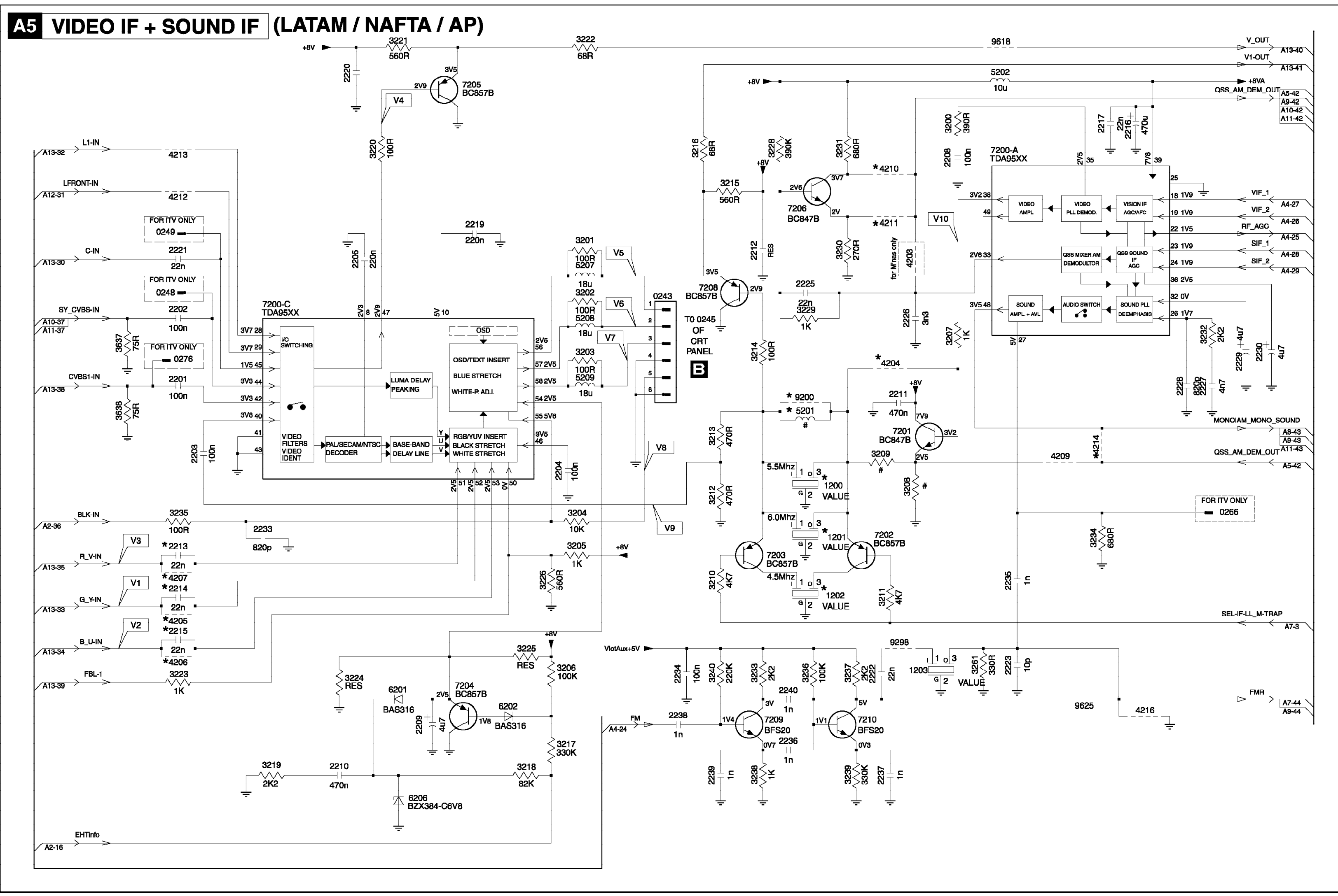

A2 LINE DEFLECTION (LATAM / NAFTA / USA)
HORIZONTAL REPAIR KIT
P/N 4835 310 57574
ACTIVATE HOT SPOTS AND
CLICK HERE FOR CONTENTS OF KIT
HORIZONTAL
DEFLECTION
COIL
TO PICTURE TUBE
TO CRT
PANEL
TO 0224 OF
CRT PANEL
MainSupply
VideoSupply
BUT11APX
AT2078
for sets
w/o quasi
diode
modulation
for sets
with quasi
diode
modulation

A3 FRAME DEFLECTION (LATAM / NAFTA / AP)

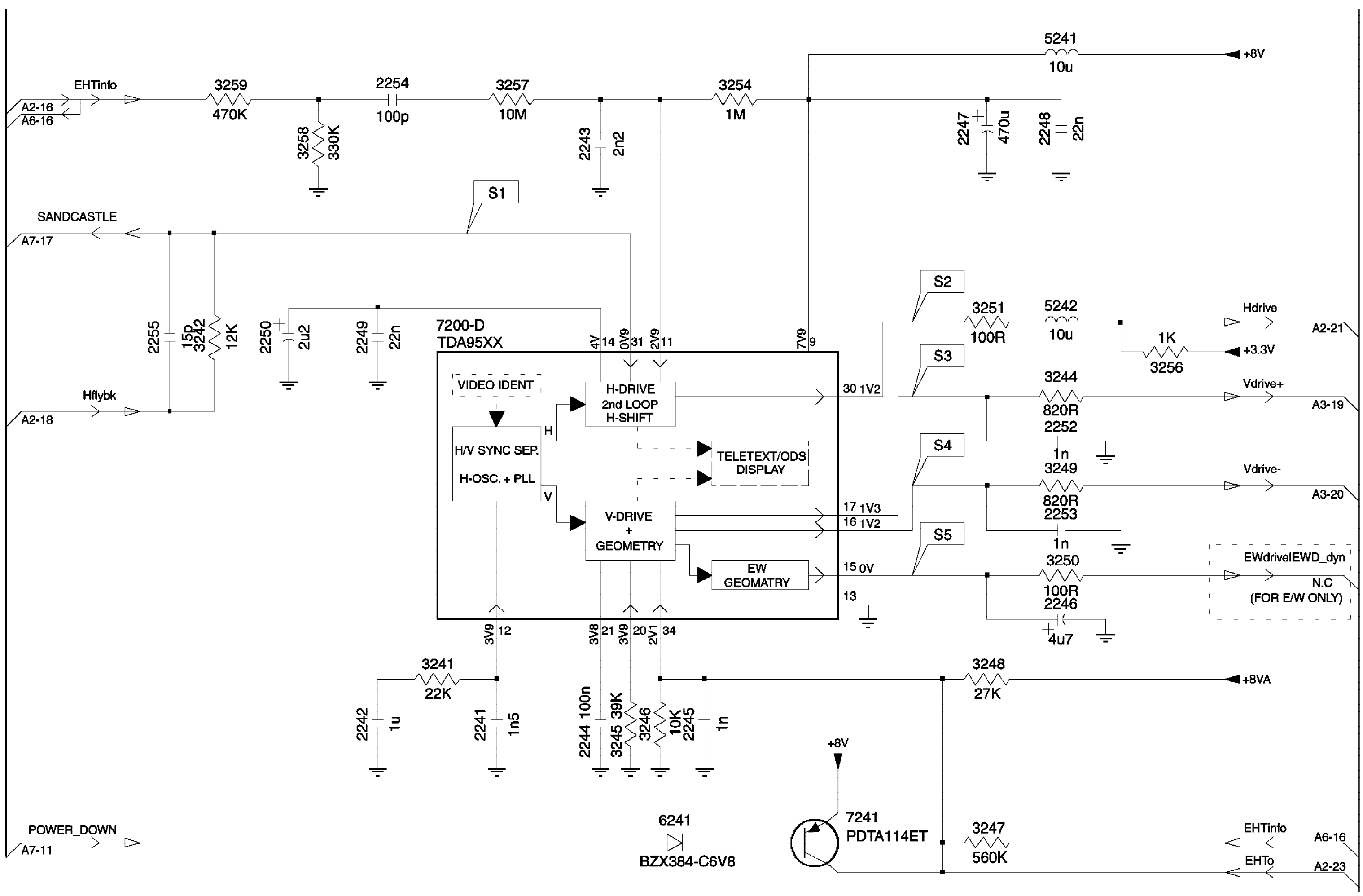


A4 TUNER IF (LATAM / NAFTA / AP)

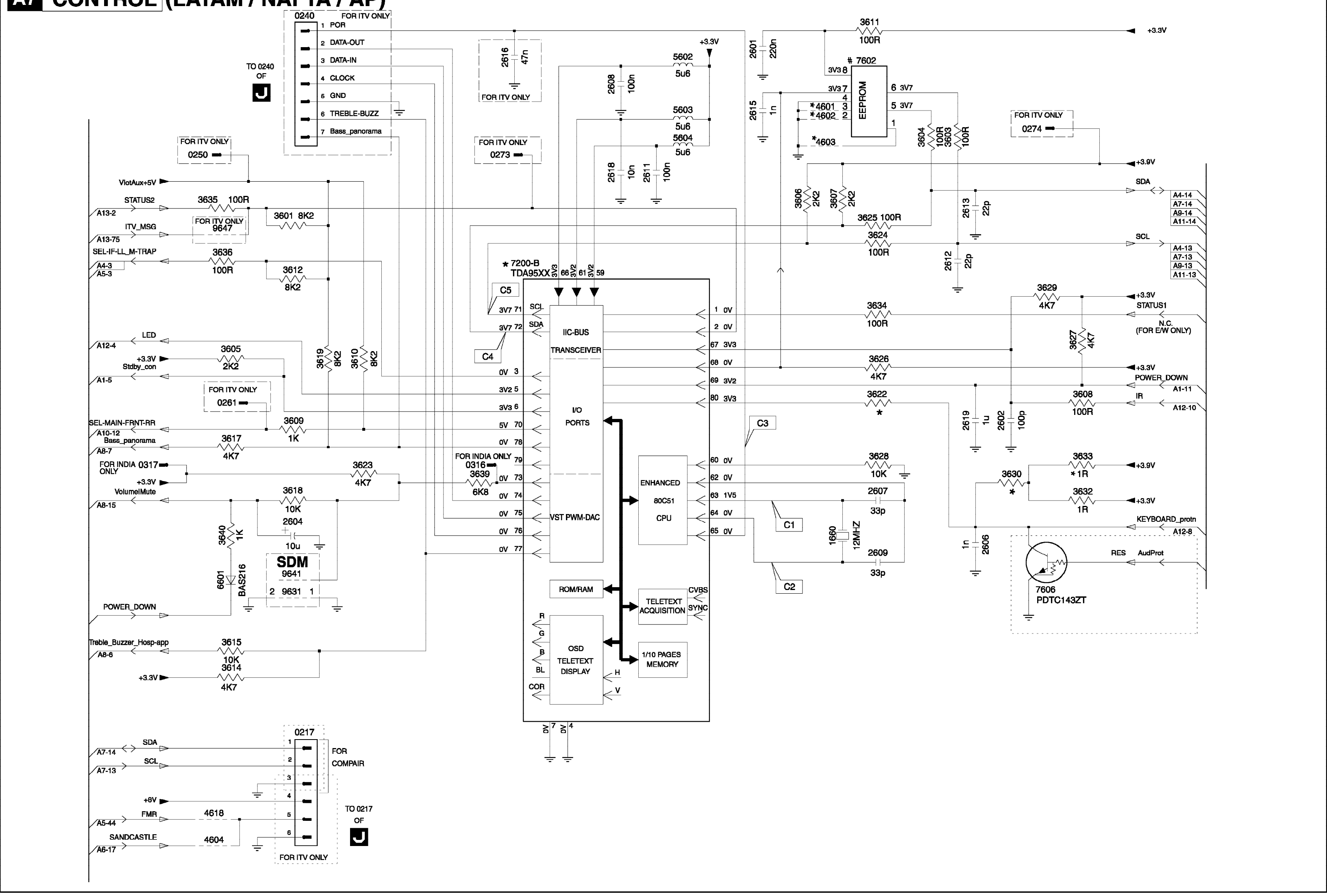



A5 VIDEO IF + SOUND IF (LATAM / NAFTA / AP)
7200-C TDA95XX
7200-A TDA95XX
I/O SWITCHING
VIDEO FILTERS VIDEO IDENT
PAL/SECAM/NTSC DECODER
BASE-BAND DELAY LINE
LUMA DELAY PEAKING
OSD
OSD/TEXT INSERT
BLUE STRETCH
WHITE-P. ADJ.
RGB/YUV INSERT BLACK STRETCH WHITE STRETCH
VIDEO AMPL.
VIDEO PLL DEMOD.
VISION IF AGC/AFC
QSS MIXER AM DEMODULTOR
QSS SOUND IF AGC
SOUND AMPL. + AVL
AUDIO SWITCH
SOUND PLL DEEMPHASIS
L1-IN
LFRONT-IN
C-IN
SY_CVBS-IN
CVBS1-IN
BLK-IN
R_V-IN
G_Y-IN
B_U-IN
FBL-1
EHTinfo
V_OUT
V1-OUT
QSS_AM_DEM_OUT
VIF_1
VIF_2
RF_AGC
SIF_1
SIF_2
MONO/AM_MONO_SOUND
SEL-IF-LL_M-TRAP
FMR
FM
VlotAux+5V
FOR ITV ONLY
T0 0245 OF CRT PANEL
B
5.5Mhz
6.0Mhz
4.5Mhz
for M'ssa only
7205 BC857B
7206 BC847B
7208 BC857B
7201 BC847B
7202 BC857B
7203 BC857B
7204 BC857B
7209 BFS20
7210 BFS20
6201 BAS316
6202 BAS316
6206 BZX384-C6V8

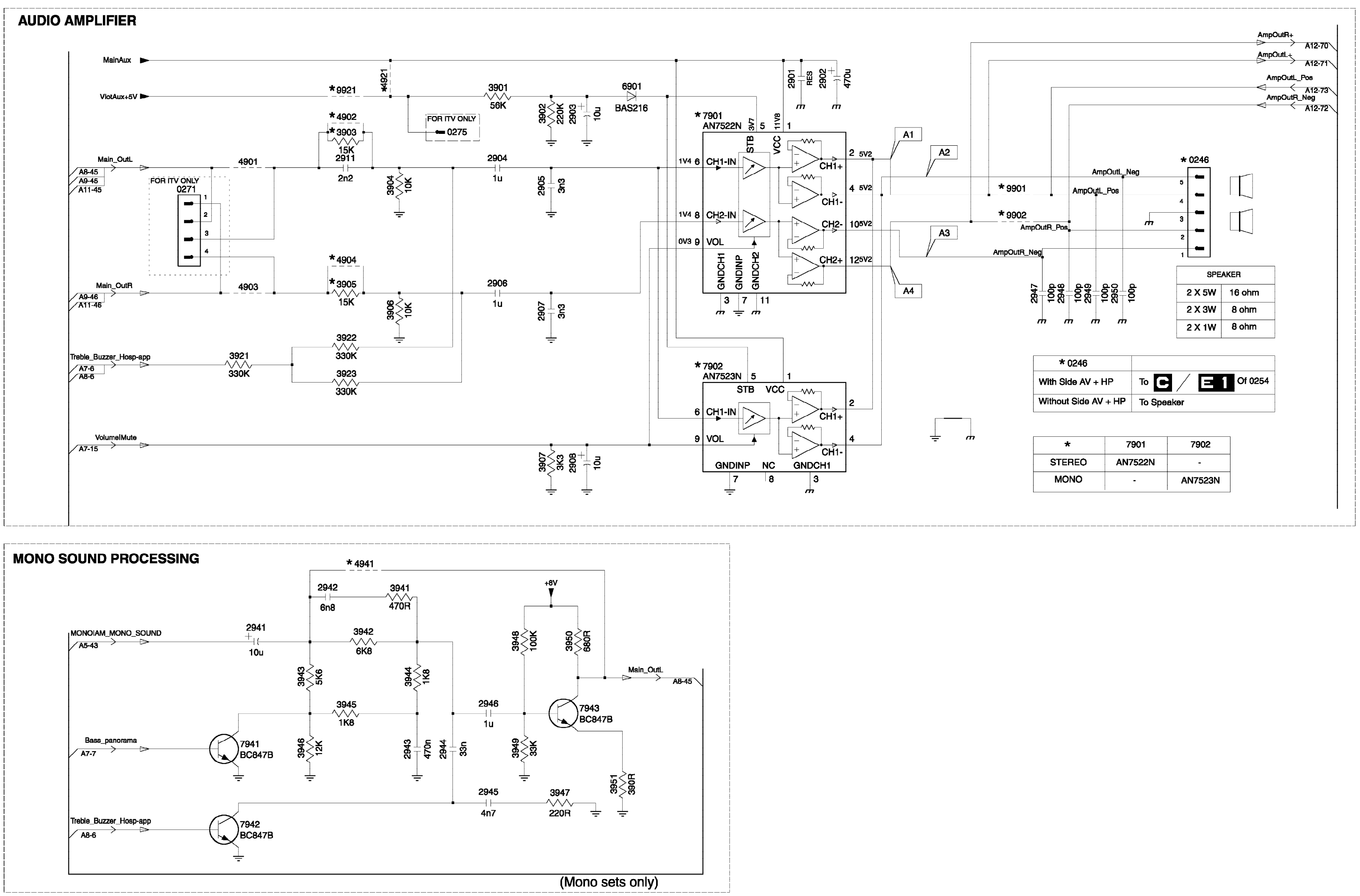
A6 SYNCHRONISATION (LATAM / NAFTA / AP)



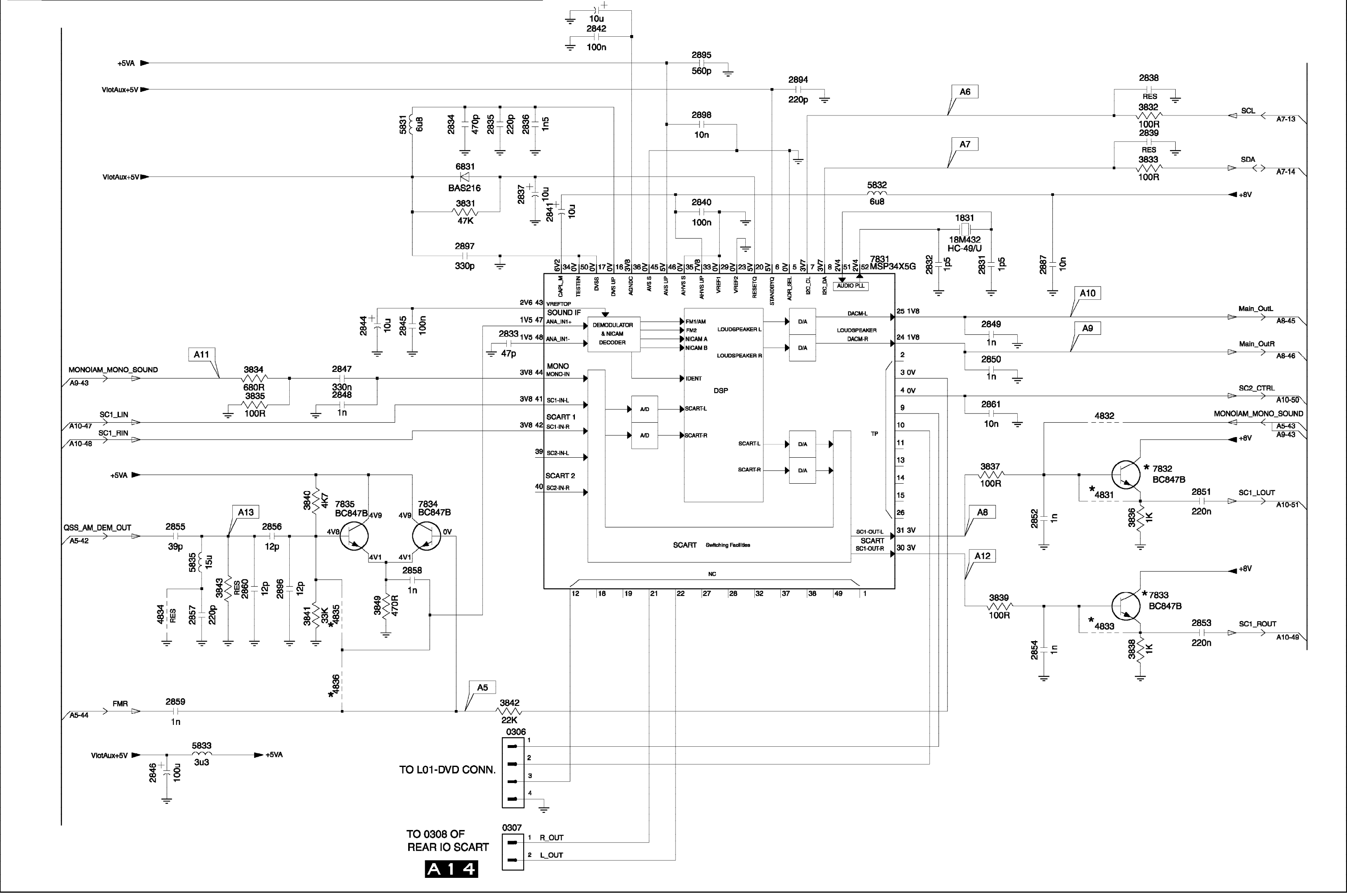
A7 CONTROL (LATAM / NAFTA / AP)



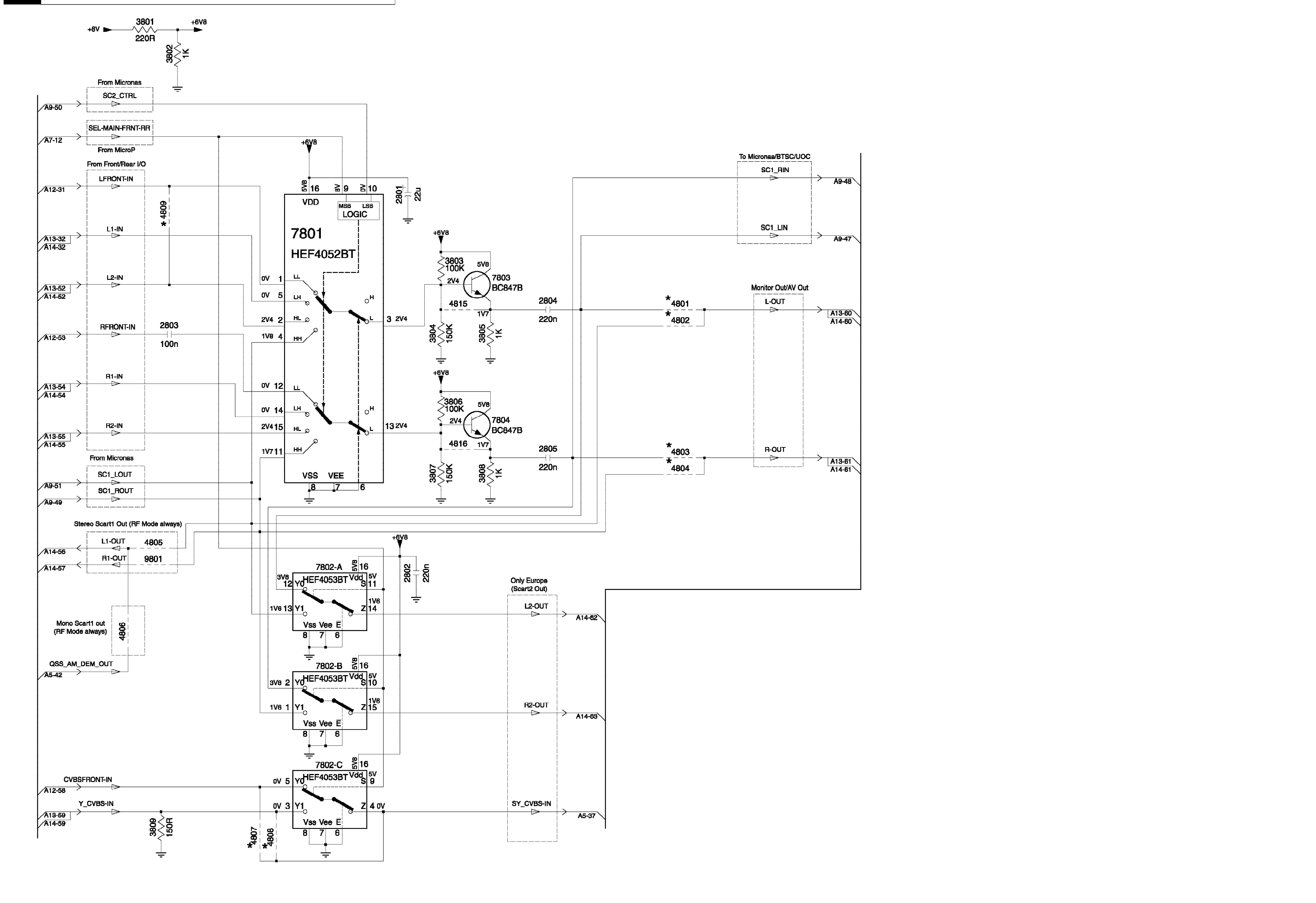
A8 AUDIO_AMPLIFIER + MONO_SOUND_PROCESSING



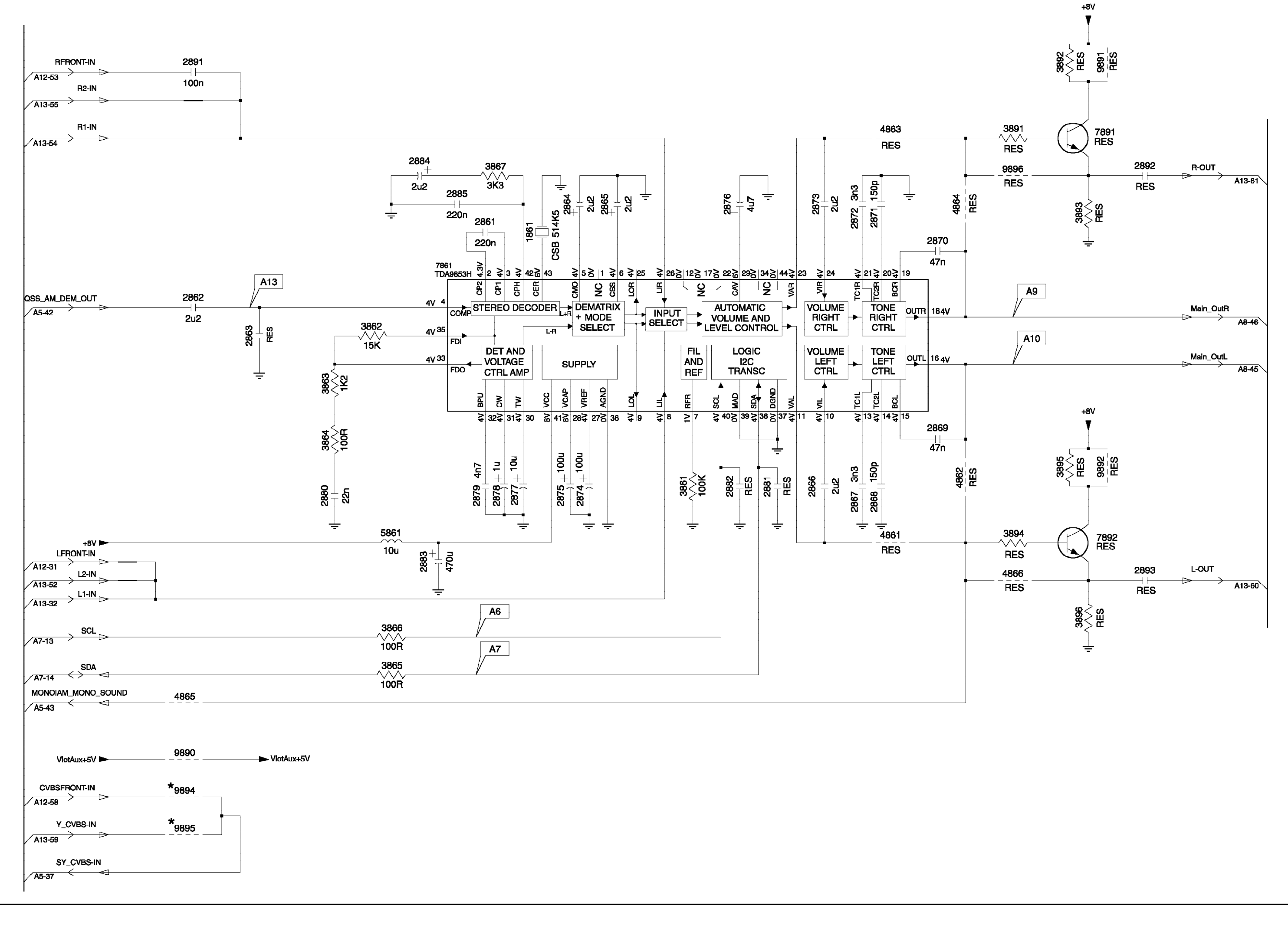
A9 NICAM + 2CS + BTSC (STEREO/SAP) DECODER

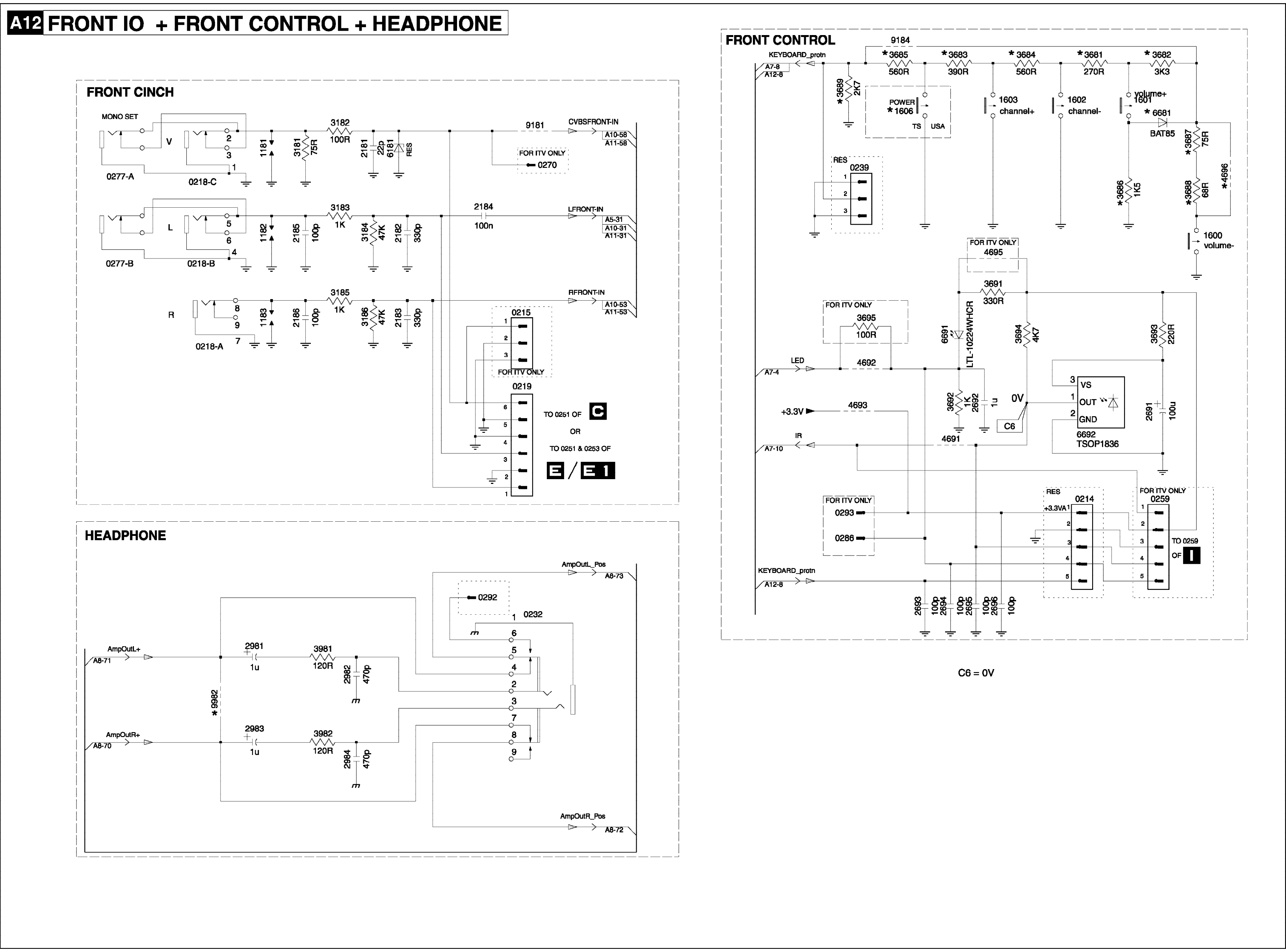


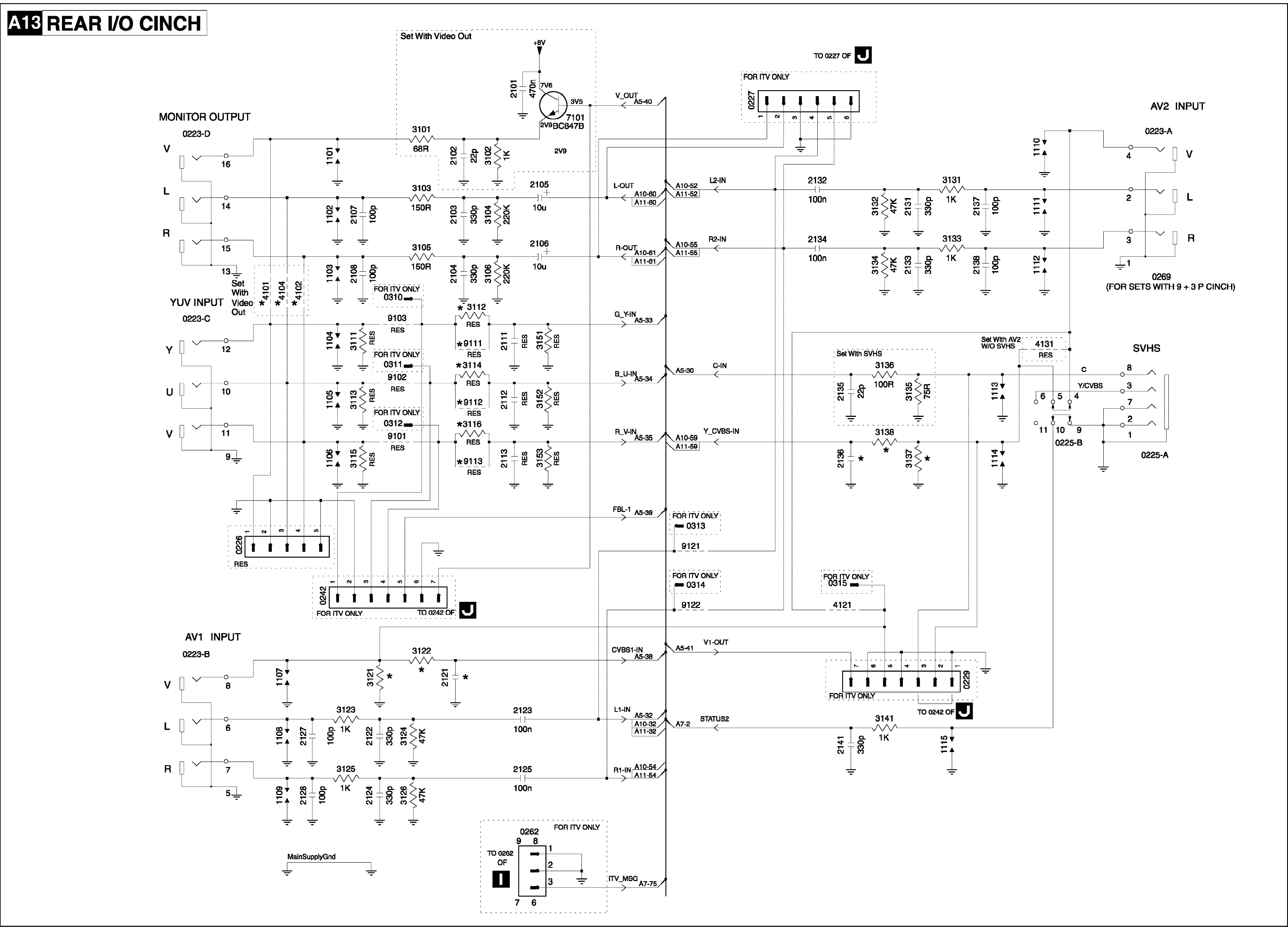
A10 AUDIO/VIDEO SOURCE SWITCHING

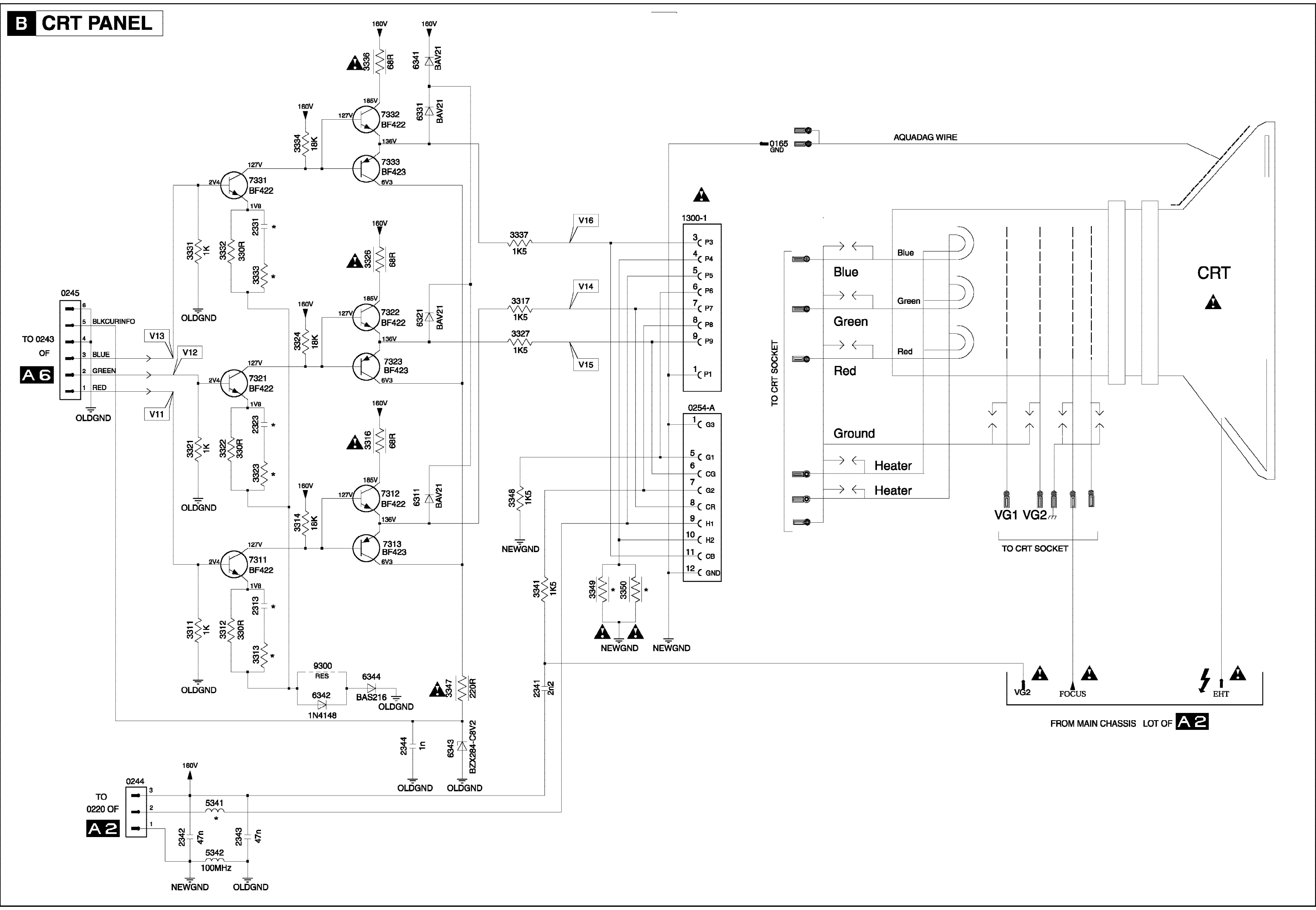


A11 AUDIO - BTSC STEREO DECODER (ECONOMIC)

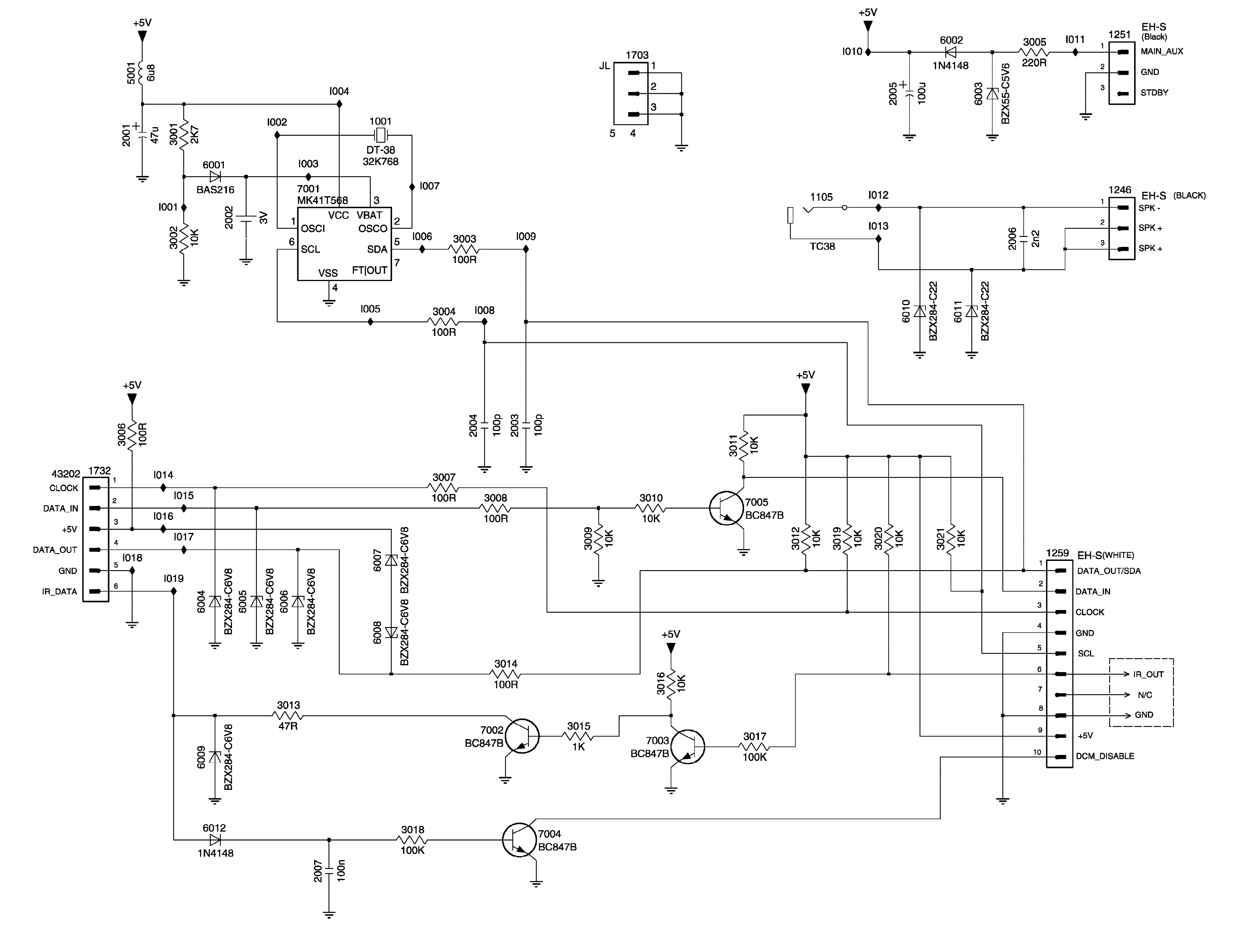



A12 FRONT IO + FRONT CONTROL + HEADPHONE
FRONT CINCH
MONO SET
0277-A
0218-C
0277-B
0218-B
0218-A
3182
100R
3183
1K
3185
1K
9181
CVBSFRONT-IN
LFRONT-IN
RFRONT-IN
2184
100n
FOR ITV ONLY
0270
0215
0219
TO 0251 OF
OR
TO 0251 & 0253 OF
HEADPHONE
AmpOutL+
AmpOutR+
AmpOutL_Pos
AmpOutR_Pos
0292
0232
2981
2983
3981
120R
3982
120R
9982
FRONT CONTROL
KEYBOARD_protn
9184
POWER
1606
1603
channel+
1602
channel-
1601
volume+
6681
BAT85
1600
volume-
0239
4695
3691
330R
3695
100R
LED
4692
LTL-10224WHCR
+3.3V
4693
IR
4691
VS
OUT
GND
6692
TSOP1836
0V
C6
0293
0286
0214
0259
TO 0259
OF
C6 = 0V

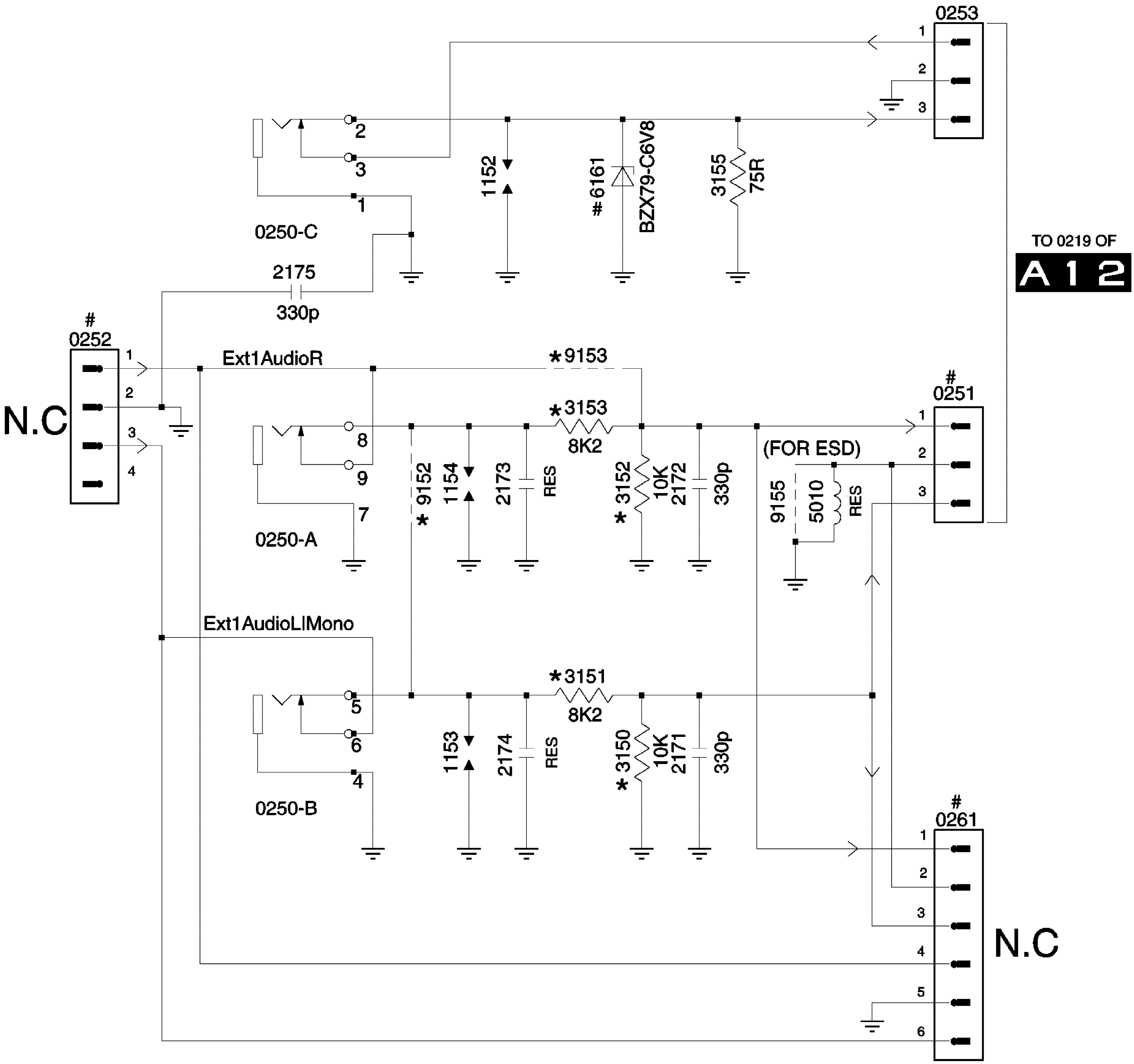

A13 REAR I/O CINCH
Set With Video Out
MONITOR OUTPUT
YUV INPUT
AV1 INPUT
AV2 INPUT
SVHS
FOR ITV ONLY
TO 0227 OF J
TO 0242 OF J
TO 0262 OF I
0269 (FOR SETS WITH 9 + 3 P CINCH)
7101 BC847B
V_OUT
L-OUT
R-OUT
G_Y-IN
B_U-IN
R_V-IN
FBL-1
CVBS1-IN
L1-IN
R1-IN
ITV_MSG
L2-IN
R2-IN
C-IN
Y_CVBS-IN
V1-OUT
STATUS2
Set With SVHS
Set With AV2 W/O SVHS
MainSupplyGnd


B CRT PANEL
CRT
AQUADAG WIRE
0165 GND
1300-1
0254-A
TO CRT SOCKET
Blue
Green
Red
Ground
Heater
Heater
VG1 VG2
VG2
FOCUS
EHT
FROM MAIN CHASSIS LOT OF A2
0245
TO 0243 OF A6
BLKCURINFO
BLUE
GREEN
RED
OLDGND
NEWGND
0244
TO 0220 OF A2
160V
7331 BF422
7332 BF422
7333 BF423
7321 BF422
7322 BF422
7323 BF423
7311 BF422
7312 BF422
7313 BF423
V11
V12
V13
V14
V15
V16
3337 1K5
3317 1K5
3327 1K5
9300 RES
6344 BAS216
6342 1N4148
6343 BZX284-C8V2
3347 220R
5341
5342 100MHz

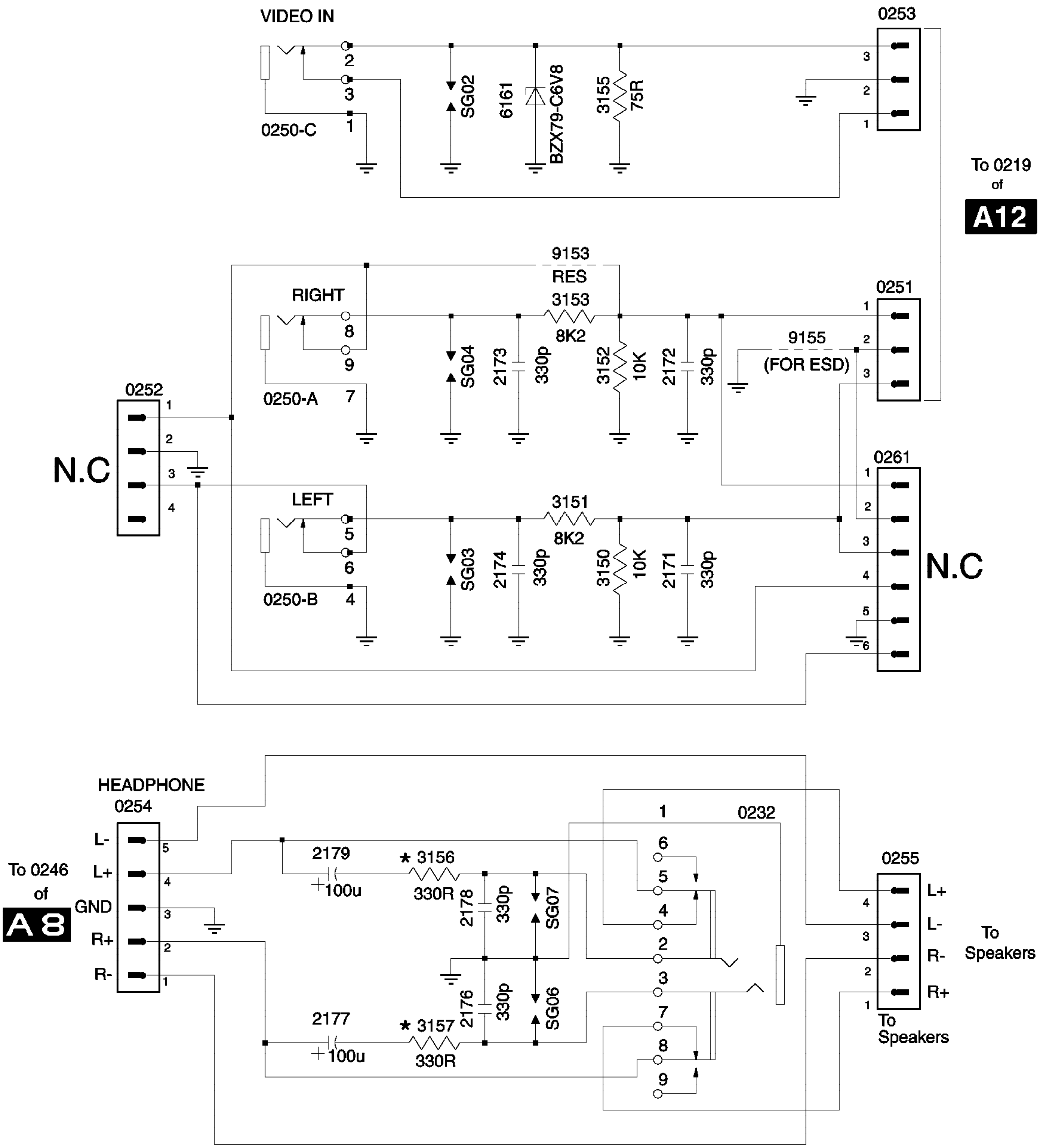
SP-LS EVENT TIMER SCHEMATIC



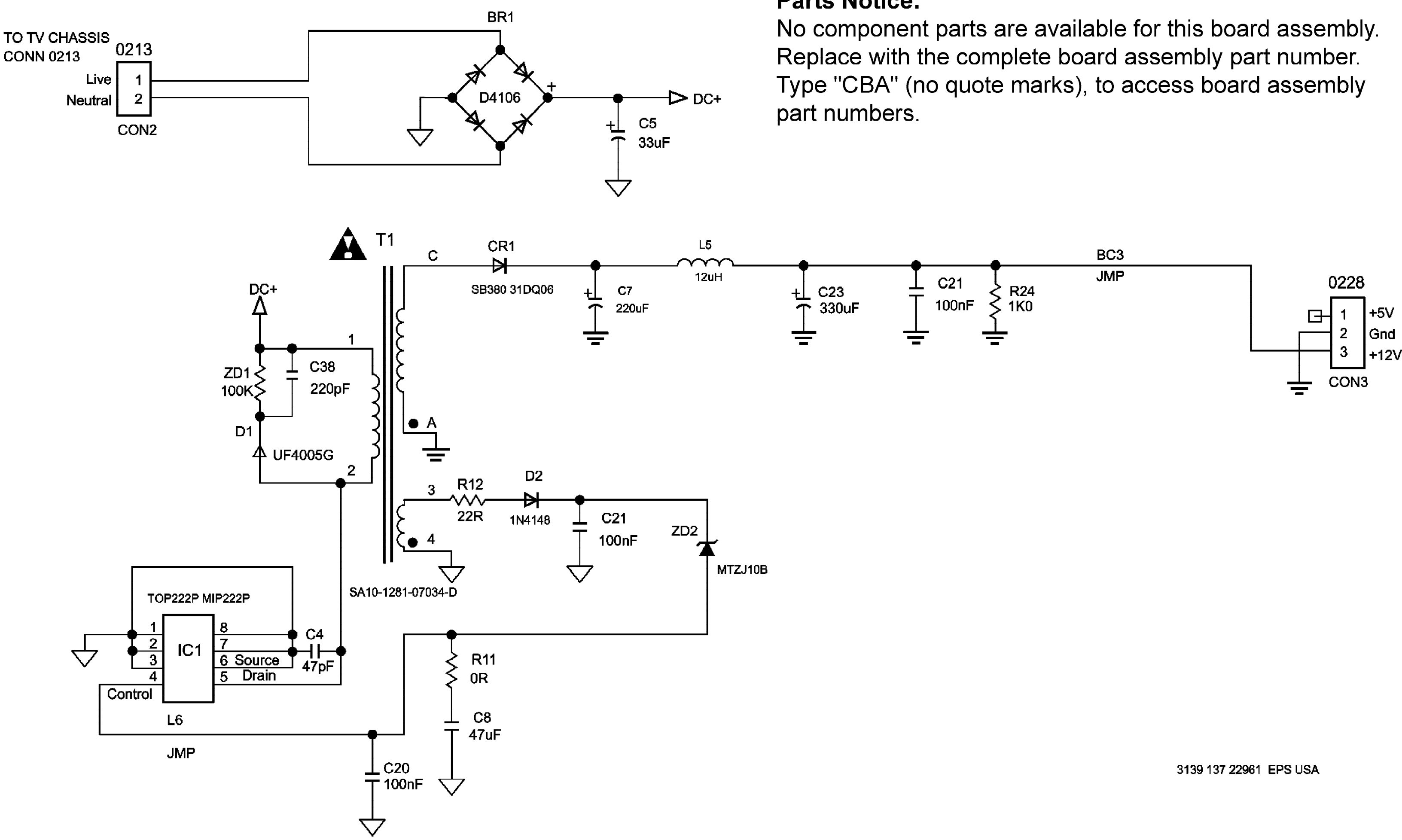
E SIDE AV


0253
TO 0219 OF
A 1 2
0250-C
2175
330p
1152
6161
BZX79-C6V8
3155
75R
0252
N.C
Ext1AudioR
*9153
*3153
8K2
0251
(FOR ESD)
0250-A
9152
1154
2173
RES
3152
10K
2172
330p
9155
5010
RES
Ext1AudioL|Mono
*3151
8K2
0250-B
1153
2174
RES
3150
10K
2171
330p
0261
N.C

E 1 SIDE AV PANEL & HEADPHONE

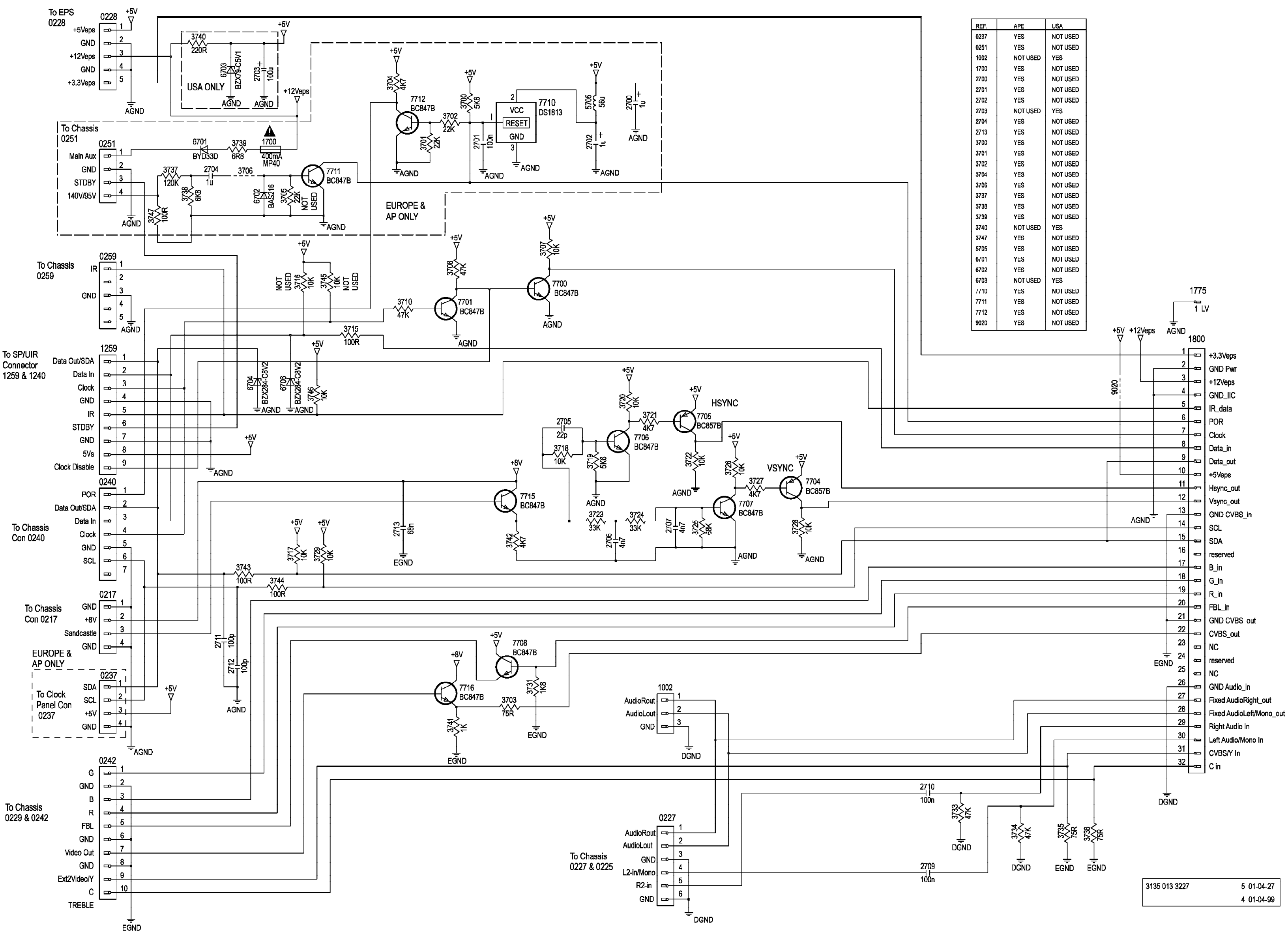


EPS PANEL SCHEMATIC

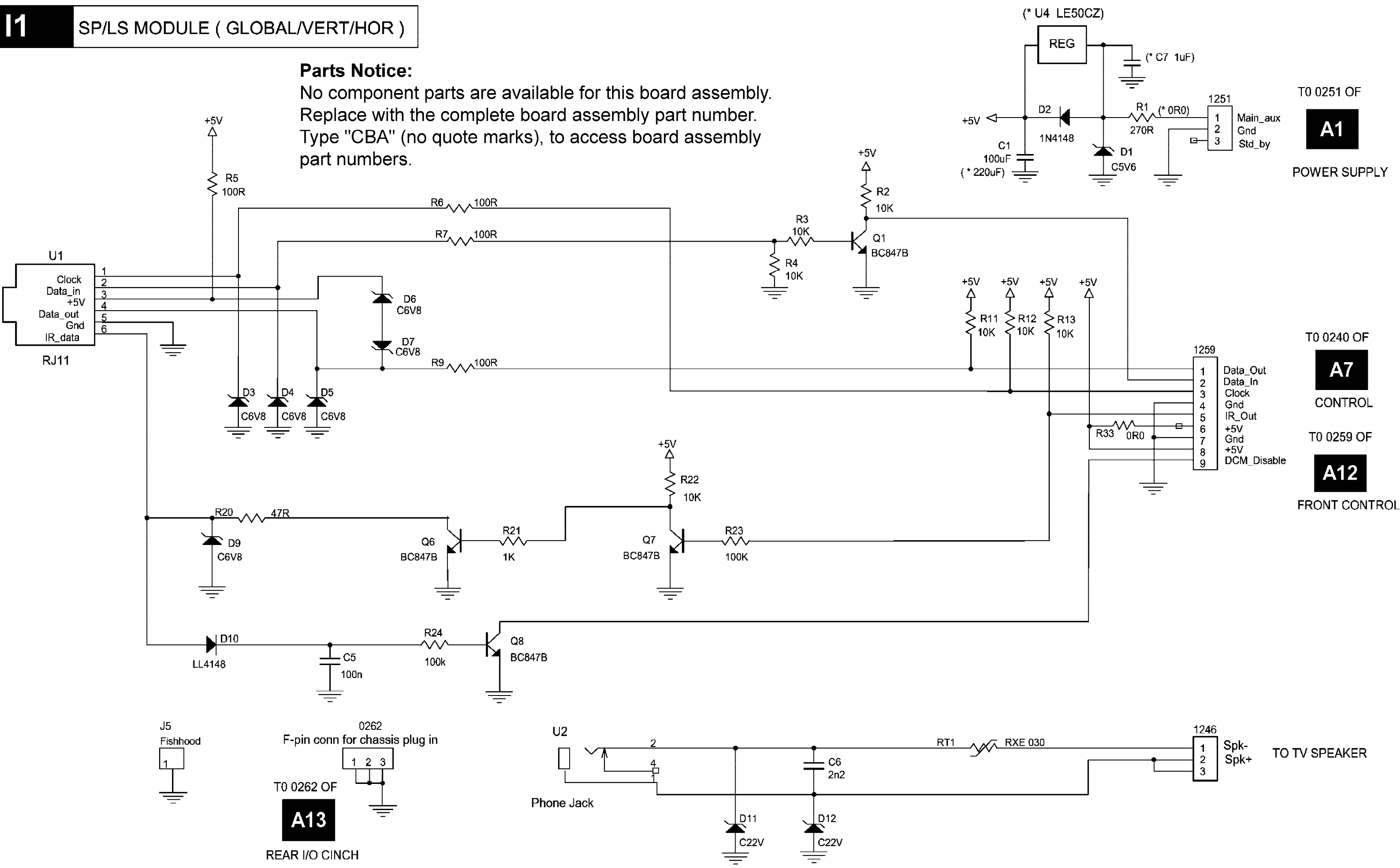


Parts Notice:
No component parts are available for this board assembly. Replace with the complete board assembly part number. Type "CBA" (no quote marks), to access board assembly part numbers.

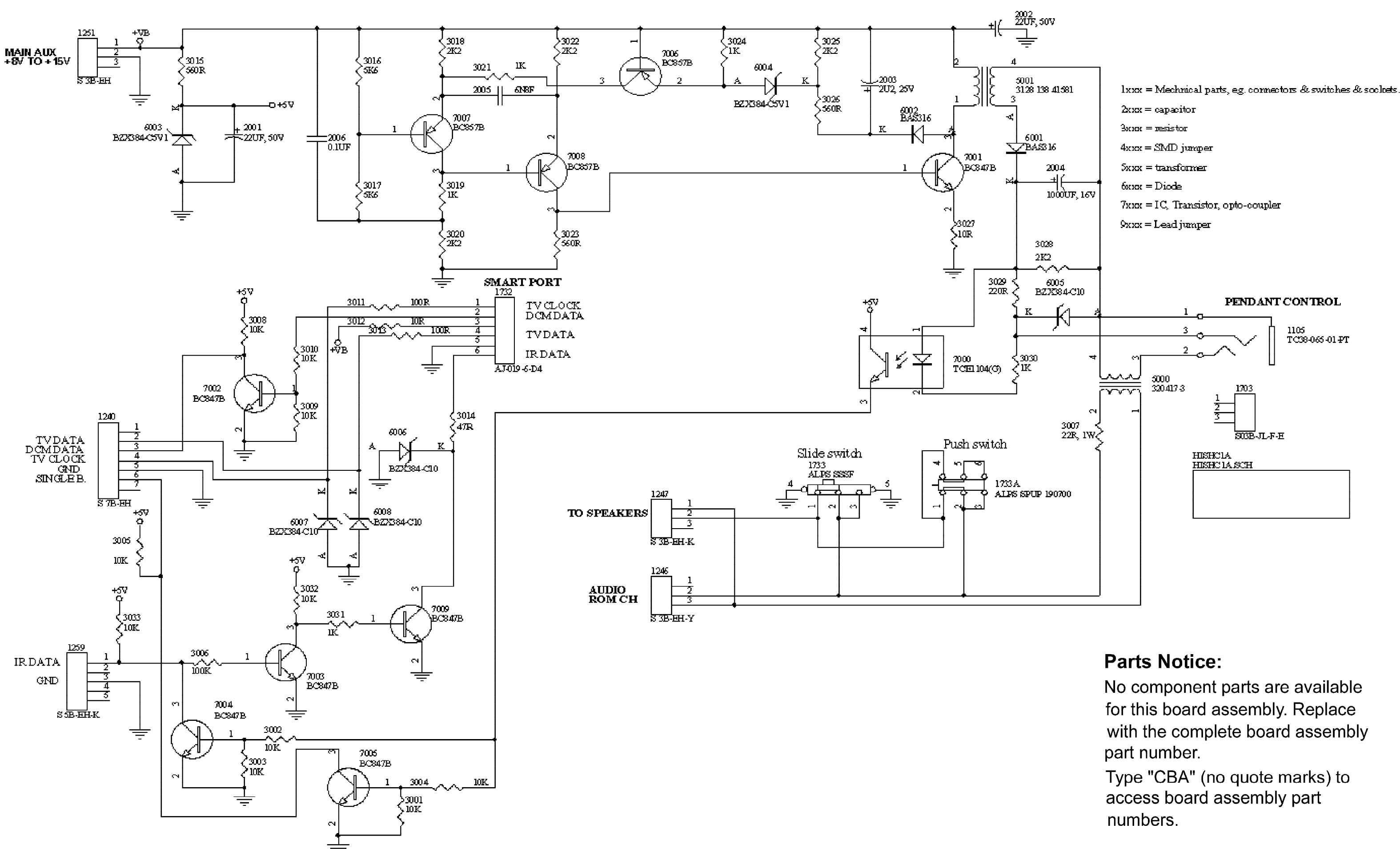
Card Interface Panel Schematic



REF.	APE	USA
0237	YES	NOT USED
0251	YES	NOT USED
1002	NOT USED	YES
1700	YES	NOT USED
2700	YES	NOT USED
2701	YES	NOT USED
2702	YES	NOT USED
2703	NOT USED	YES
2704	YES	NOT USED
2713	YES	NOT USED
3700	YES	NOT USED
3701	YES	NOT USED
3702	YES	NOT USED
3704	YES	NOT USED
3706	YES	NOT USED
3737	YES	NOT USED
3738	YES	NOT USED
3739	YES	NOT USED
3740	NOT USED	YES
3747	YES	NOT USED
5705	YES	NOT USED
6701	YES	NOT USED
6702	YES	NOT USED
6703	NOT USED	YES
7710	YES	NOT USED
7711	YES	NOT USED
7712	YES	NOT USED
9020	YES	NOT USED


I1 SP/LS MODULE (GLOBAL/VERT/HOR)
Parts Notice:
No component parts are available for this board assembly.
Replace with the complete board assembly part number.
Type "CBA" (no quote marks), to access board assembly
part numbers.
(* U4 LE50CZ)
REG
(* C7 1uF)
+5V
D2
1N4148
R1 (* 0R0)
270R
C1
100uF
(* 220uF)
D1
C5V6
1251
Main_aux
Gnd
Std_by
T0 0251 OF
A1
POWER SUPPLY
R5
100R
R6 100R
R7 100R
R3
10K
R4
10K
R2
10K
Q1
BC847B
U1
Clock
Data_in
+5V
Data_out
Gnd
IR_data
RJ11
D6
C6V8
D7
C6V8
R9 100R
D3 C6V8
D4 C6V8
D5 C6V8
R11 10K
R12 10K
R13 10K
1259
Data_Out
Data_In
Clock
Gnd
IR_Out
+5V
Gnd
+5V
DCM_Disable
R33 0R0
T0 0240 OF
A7
CONTROL
T0 0259 OF
A12
FRONT CONTROL
R22
10K
R20 47R
D9
C6V8
Q6
BC847B
R21
1K
Q7
BC847B
R23
100K
D10
LL4148
C5
100n
R24
100k
Q8
BC847B
J5
Fishhood
0262
F-pin conn for chassis plug in
T0 0262 OF
A13
REAR I/O CINCH
U2
Phone Jack
C6
2n2
RT1
RXE 030
D11
C22V
D12
C22V
1246
Spk-
Spk+
TO TV SPEAKER

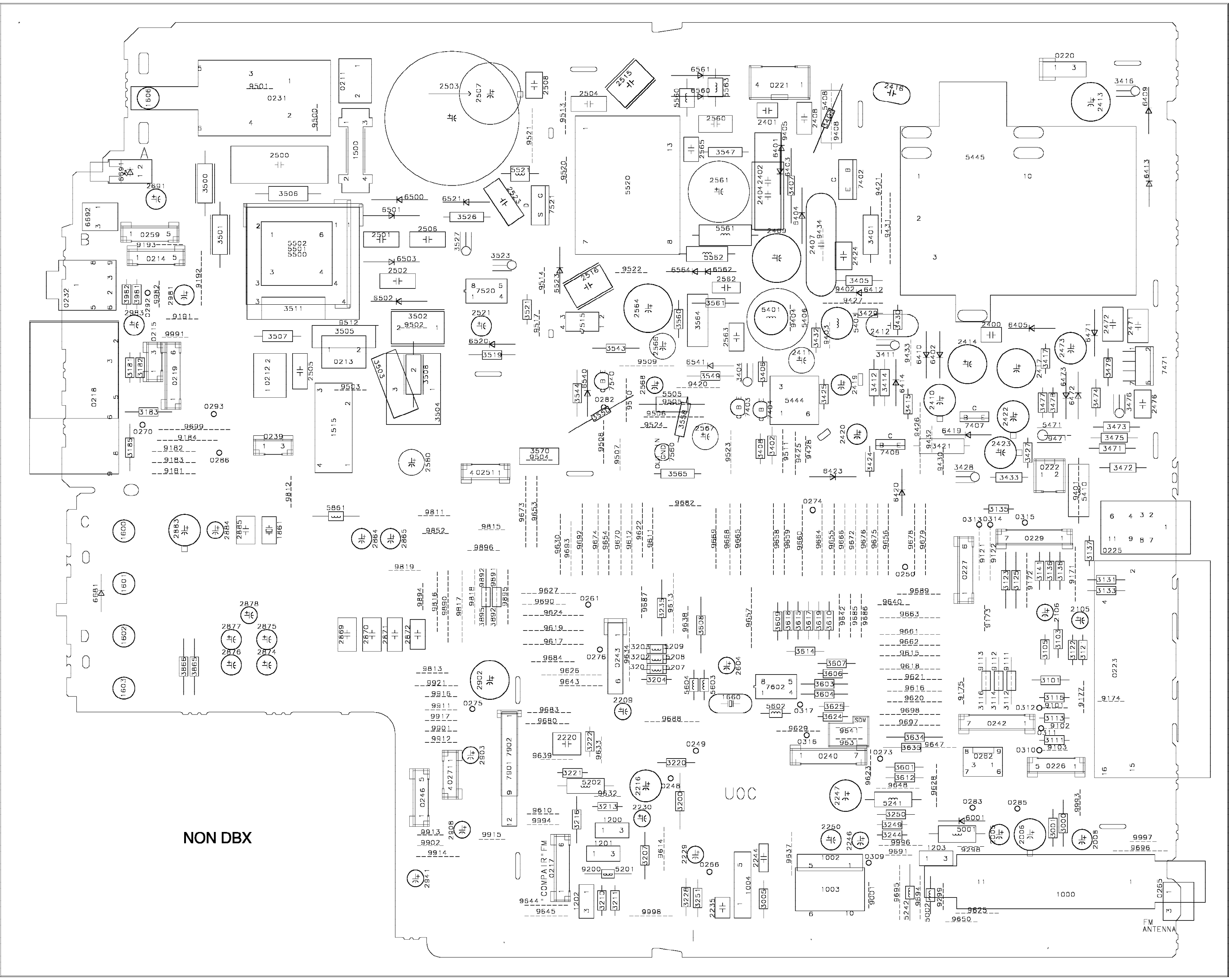
HEALTHCARE MODULE



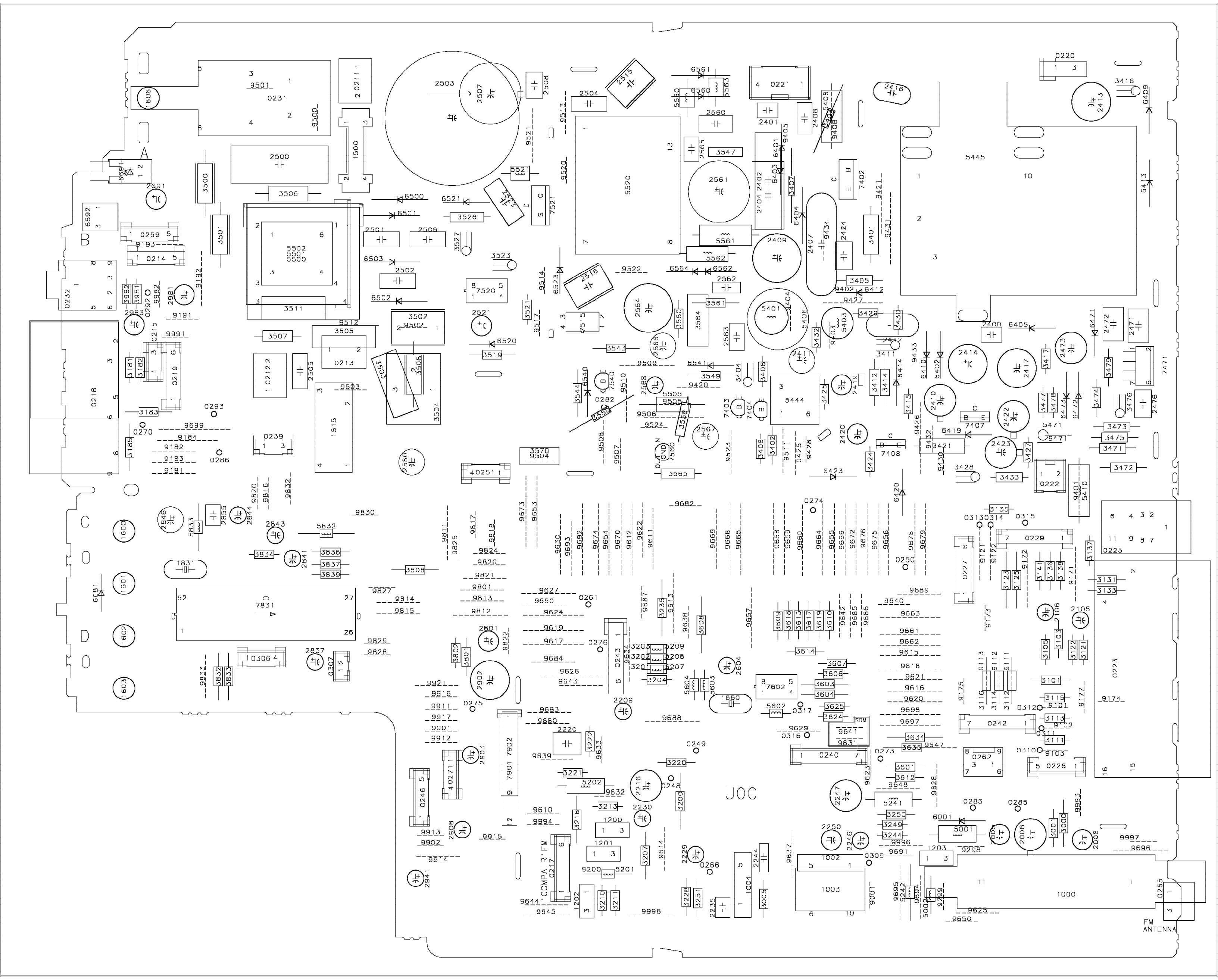
Parts Notice:

No component parts are available for this board assembly. Replace with the complete board assembly part number.

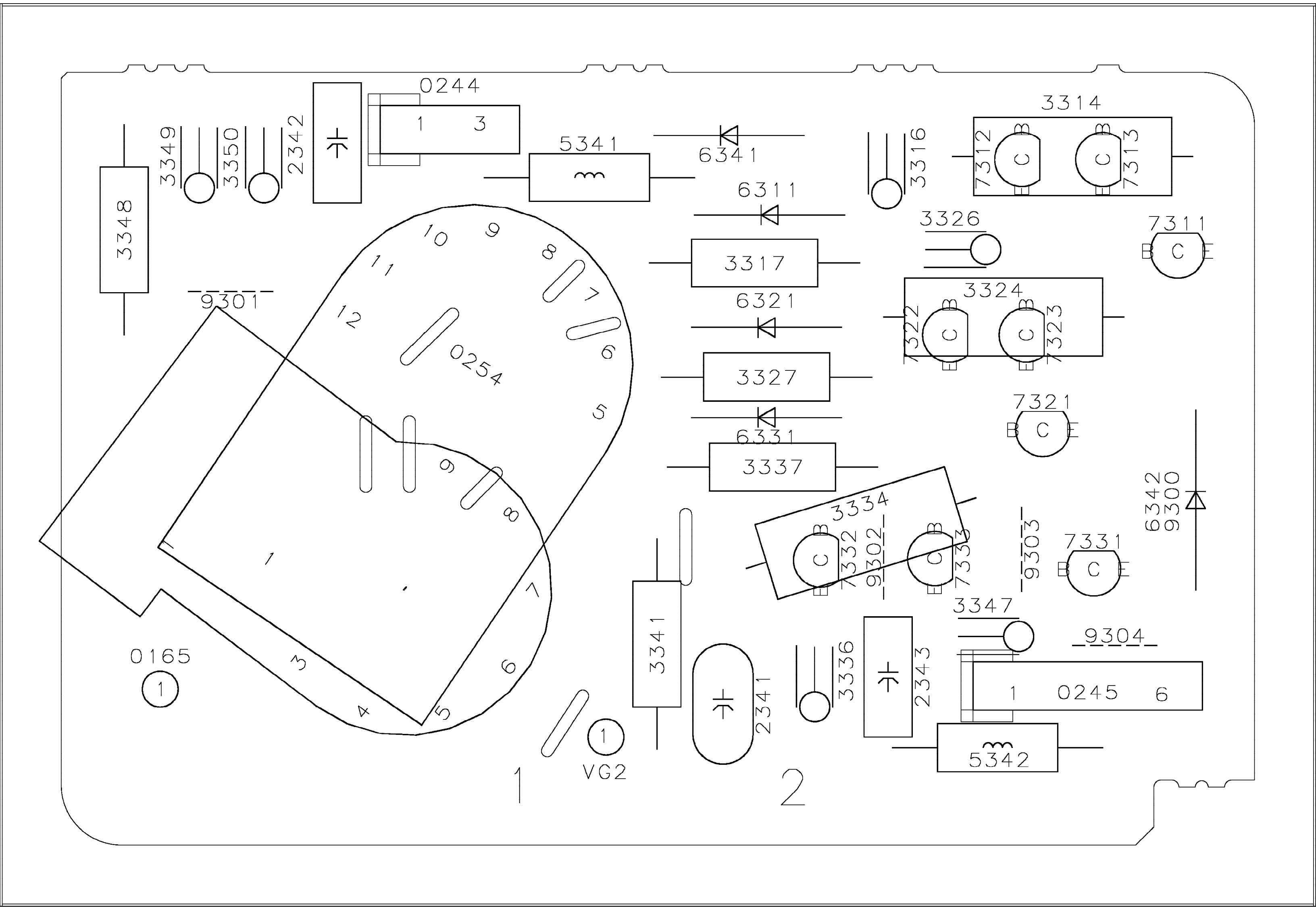
Type "CBA" (no quote marks) to access board assembly part numbers.

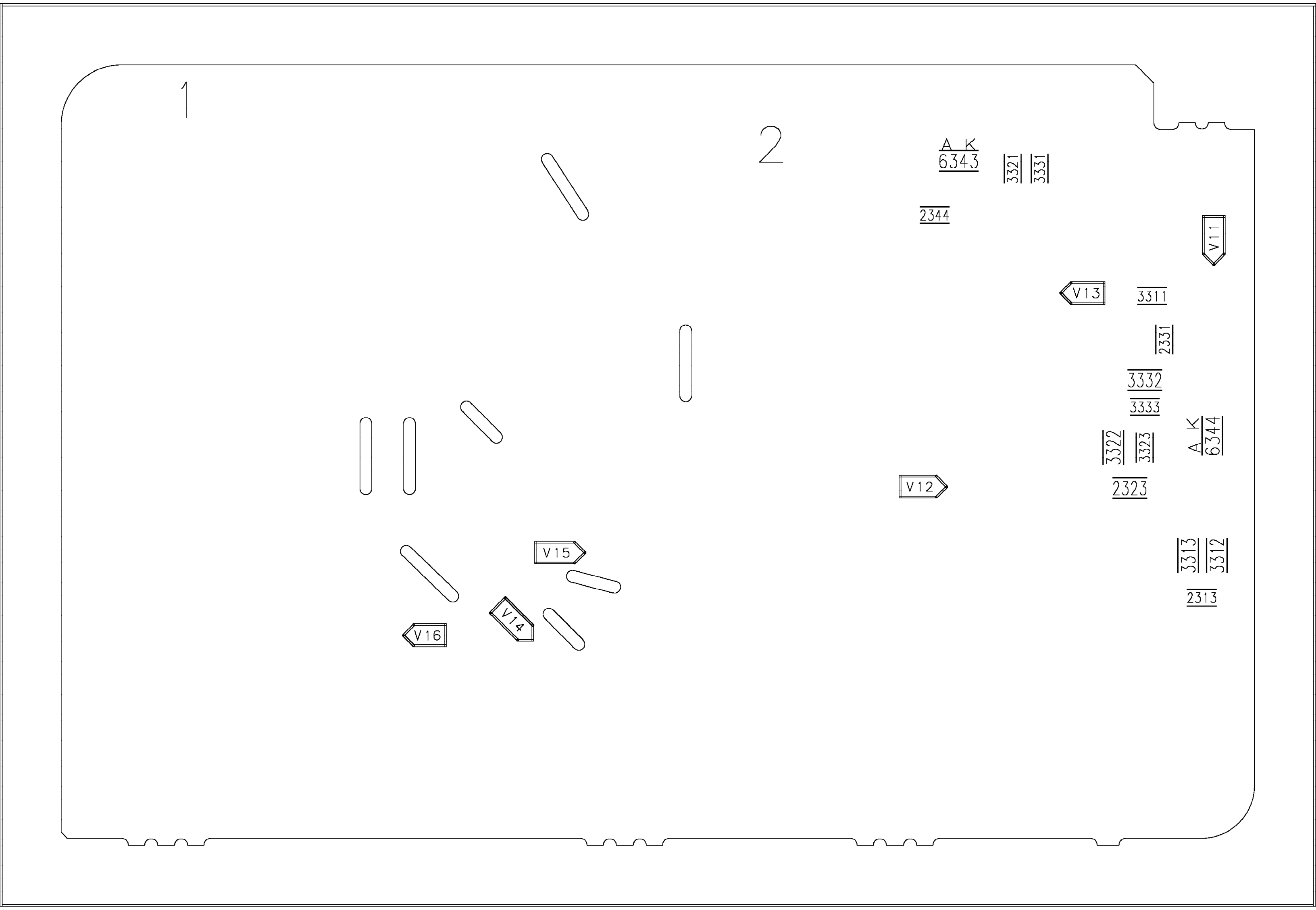

NON DBX
UOC
FM ANTENNA
COMPAIR FM

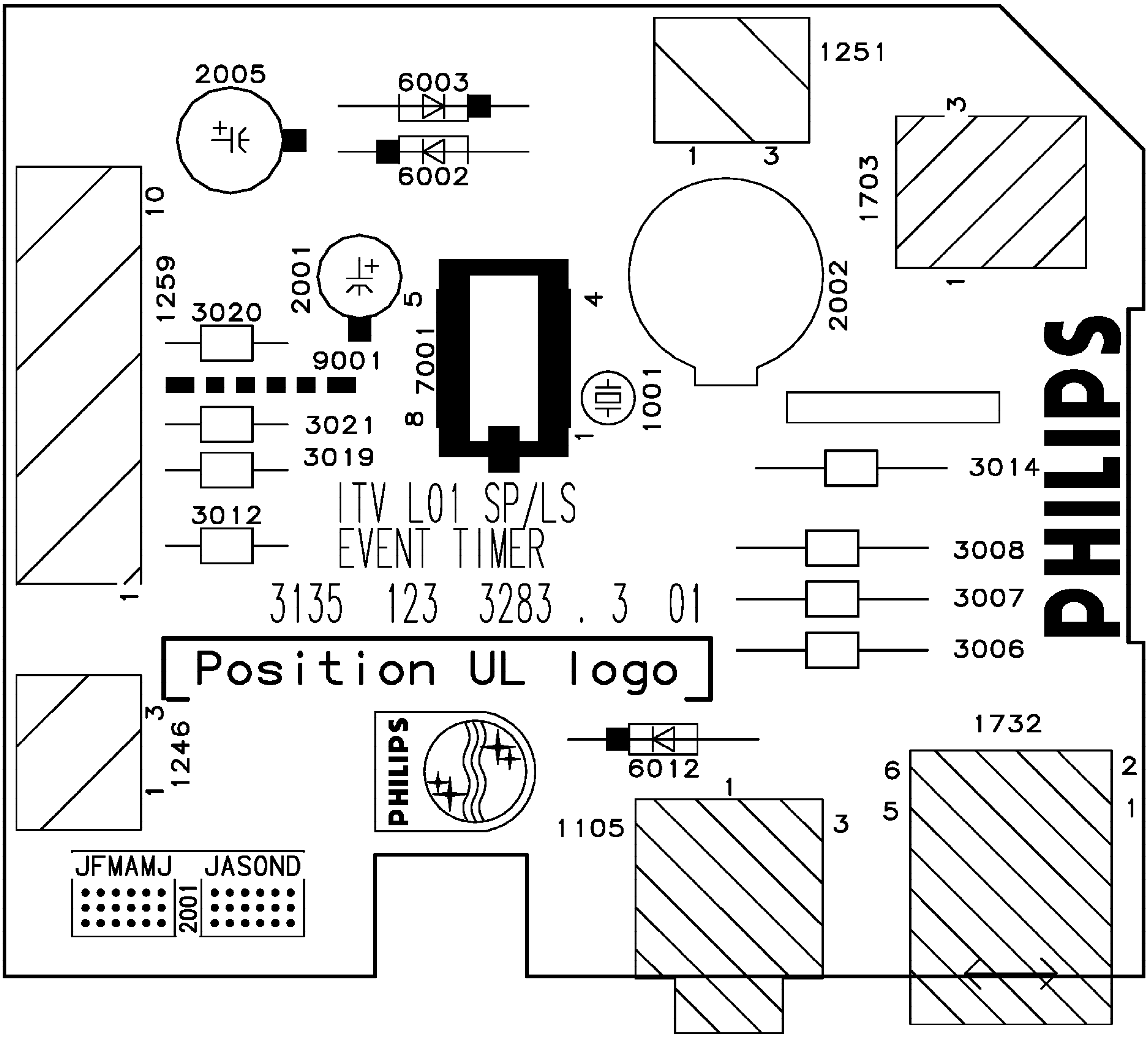


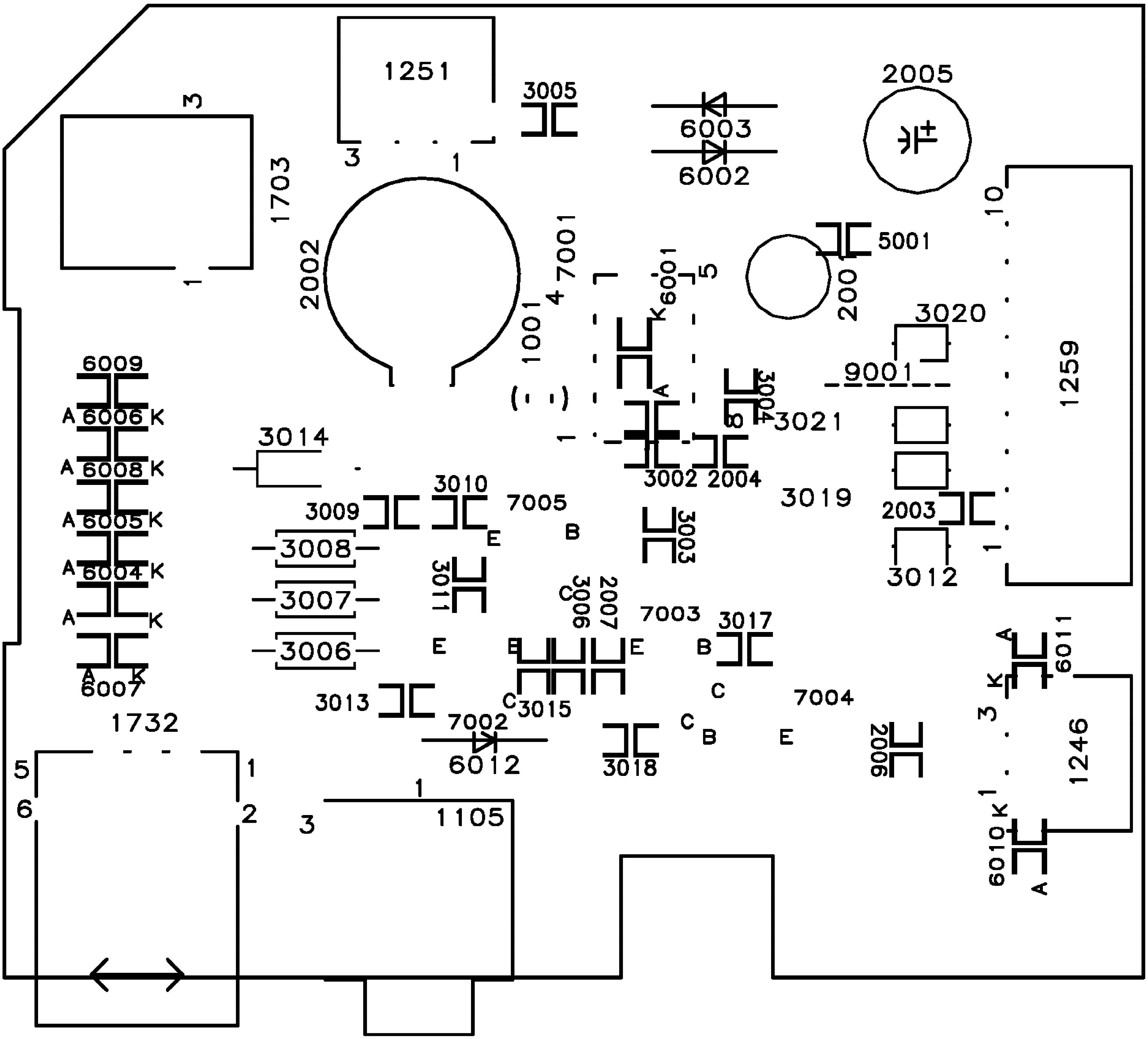




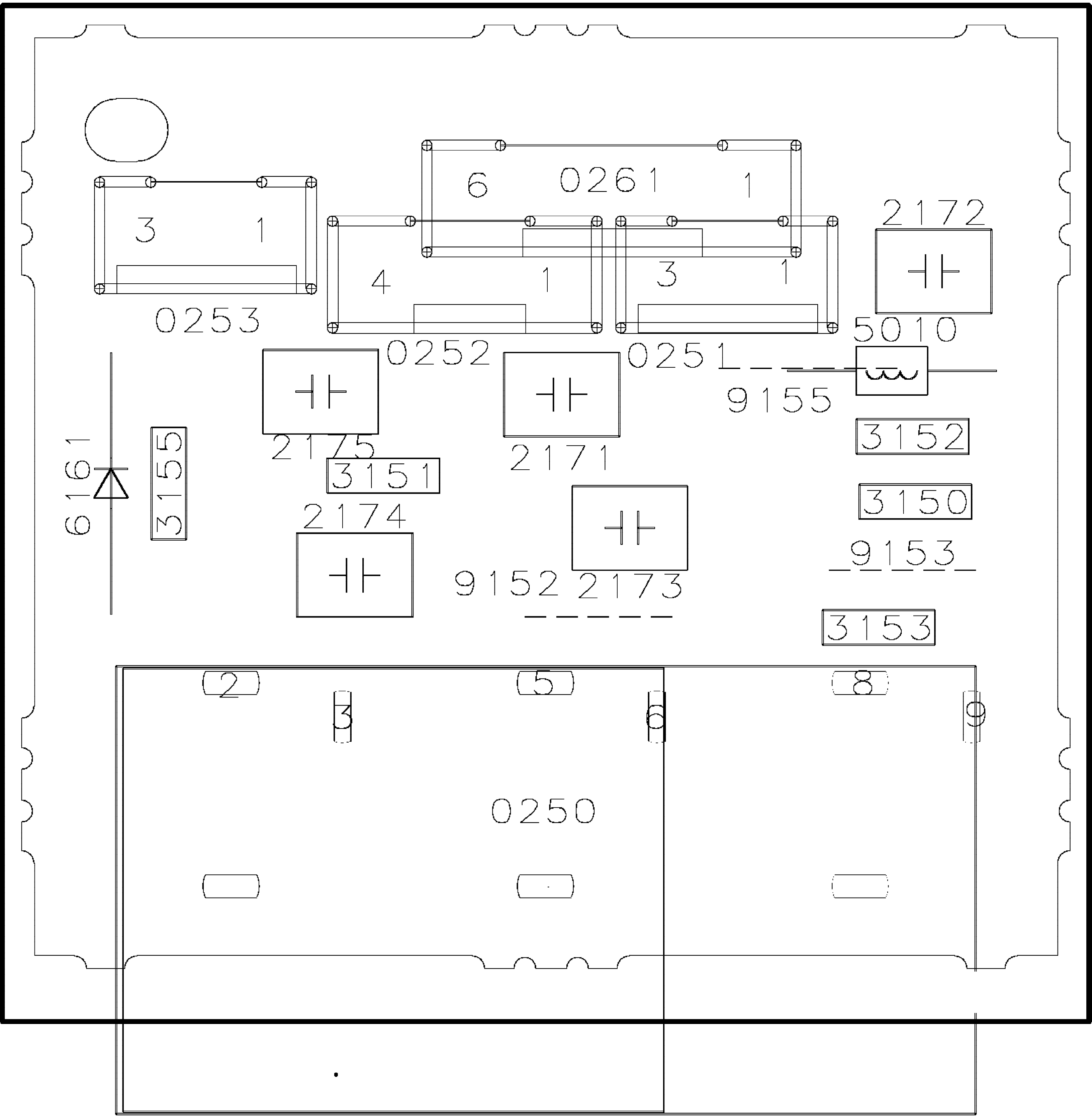

0244
1 3
3314
5341
6341
3316
7312
7313
3349
3350
2342
3348
6311
3326
7311
B C E
3317
9301
3324
6321
7322
7323
0254
3327
7321
6331
3337
6342
9300
3334
7332
9302
7333
9303
7331
3347
9304
0165
3341
3336
2343
0245
1 6
2341
5342
VG2
1
2

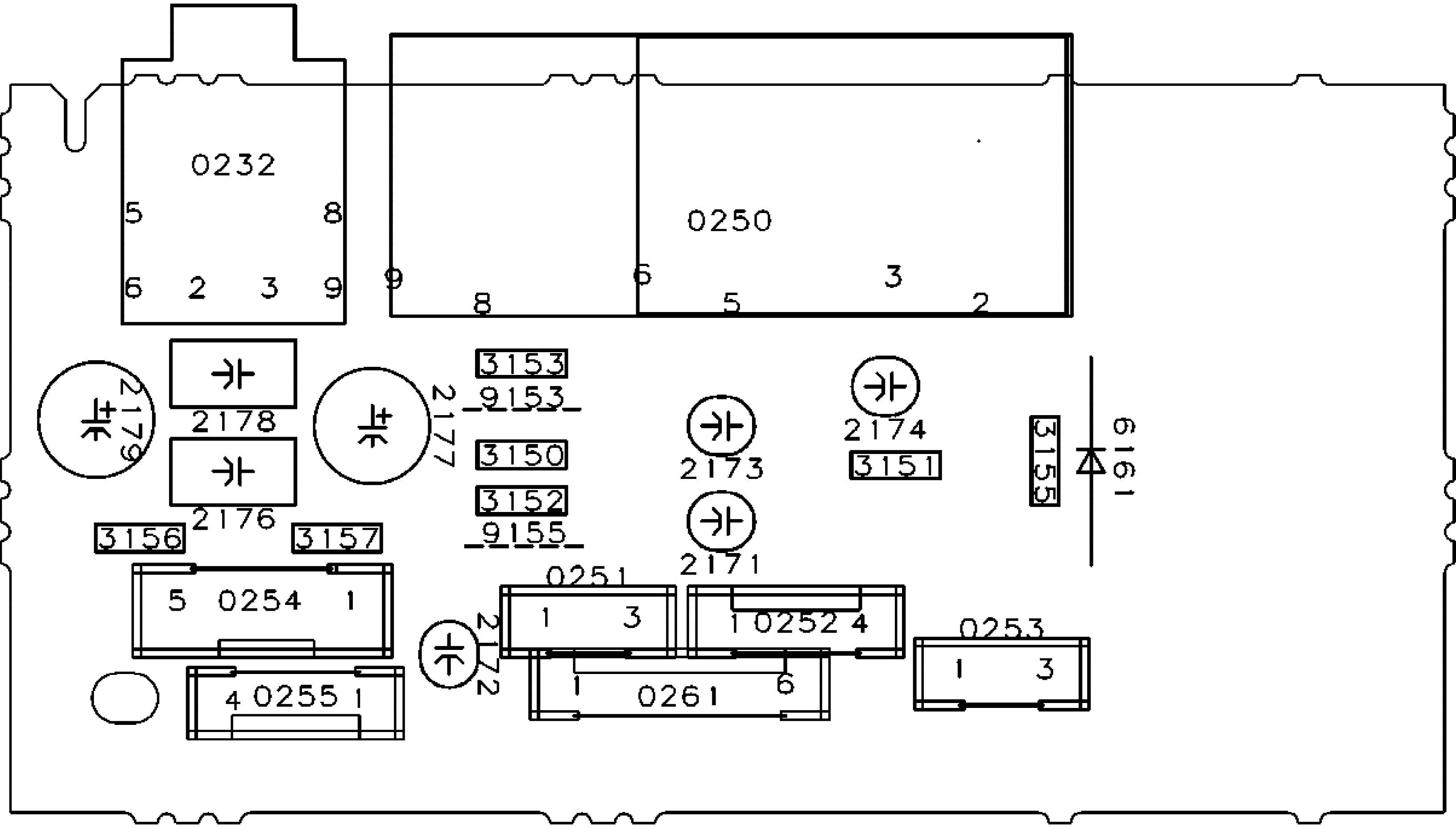

1
2
A K
6343
3321
3331
2344
V11
V13
3311
2331
3332
3333
A K
6344
3322
3323
V12
2323
3313
3312
2313
V15
V14
V16

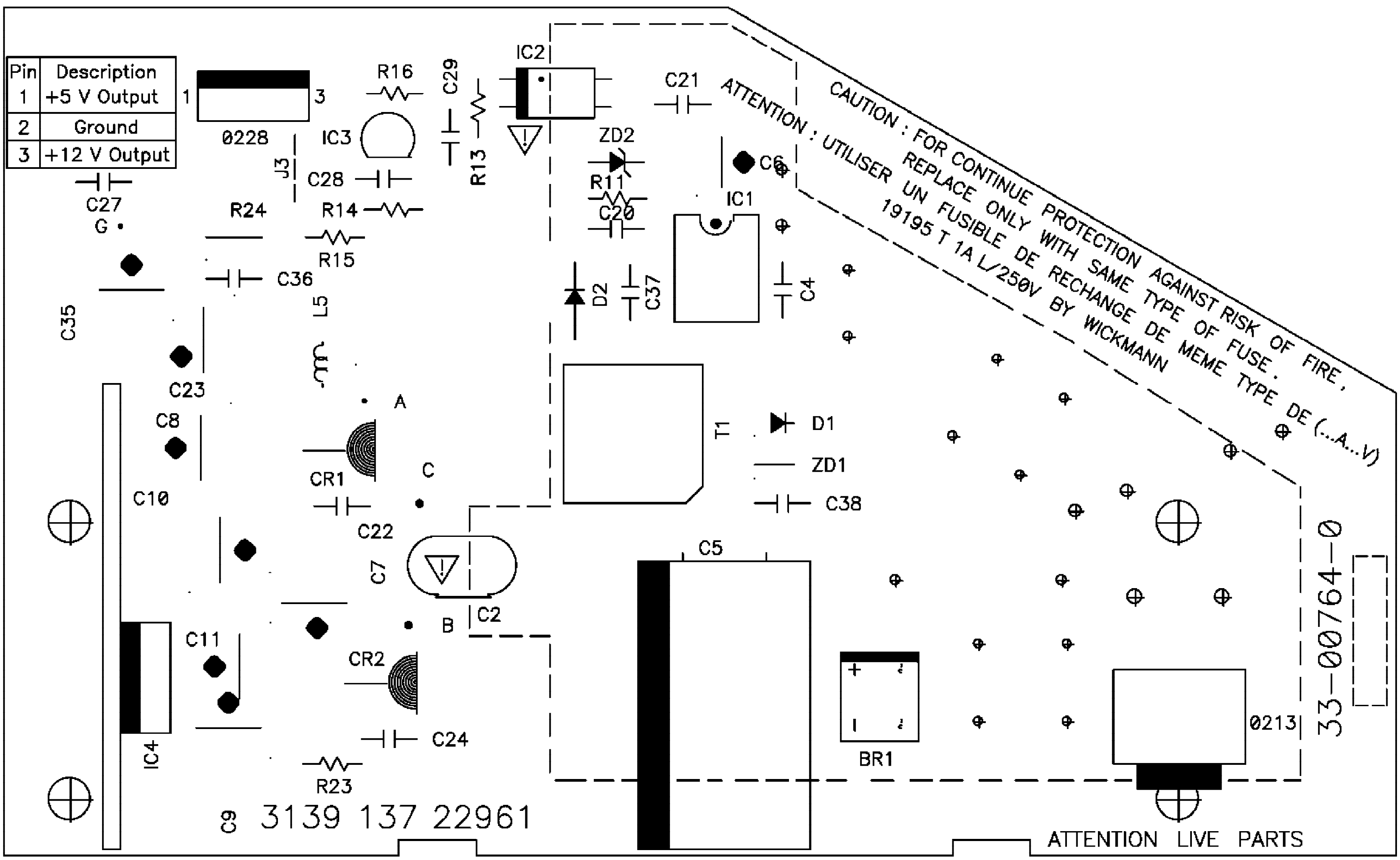

2005
6003
6002
1251
1703
1259
2001
3020
9001
7001
2002
1001
3021
3019
3014
3012
ITV L01 SP/LS
EVENT TIMER
3008
3007
3135 123 3283 . 3 01
3006
PHILIPS
Position UL logo
1246
6012
1732
1105
JFMAMJ
JASOND



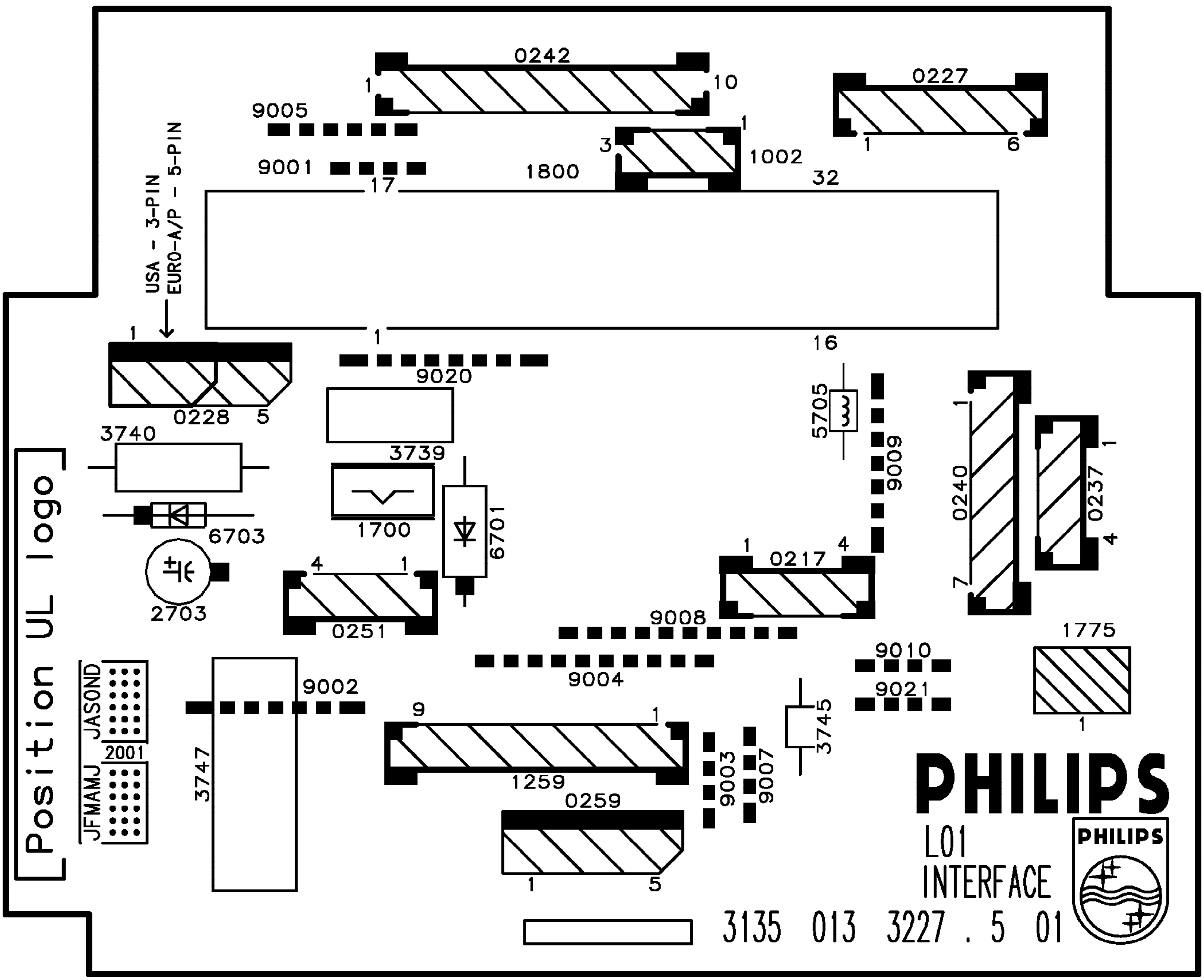
1251
3005
6003
6002
2005
1703
2002
7001
6001
5001
2001
3020
9001
1259
1001
3004
3021
6009
6006
6008
6005
6004
6007
3014
3002
2004
3019
2003
3010
7005
3009
3008
3007
3006
3011
3003
3012
3006
2007
7003
3017
6011
3013
3015
7004
1732
7002
6012
3018
2006
1246
1105
6010

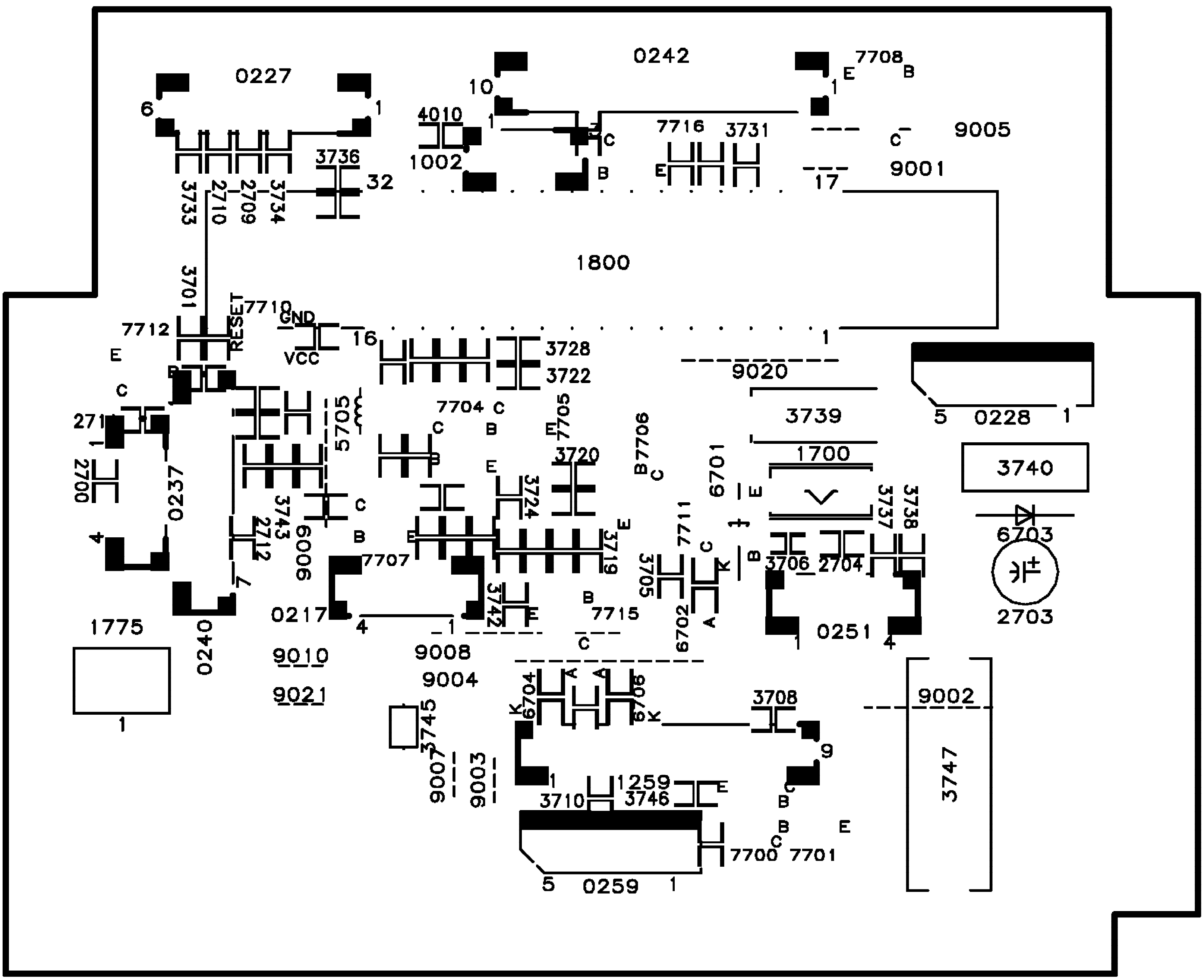

0261
6
1
3
1
0253
4
1
0252
3
1
0251
2172
5010
9155
2175
2171
3152
3151
3150
6161
3155
2174
9153
9152
2173
3153
2
5
8
3
6
9
0250

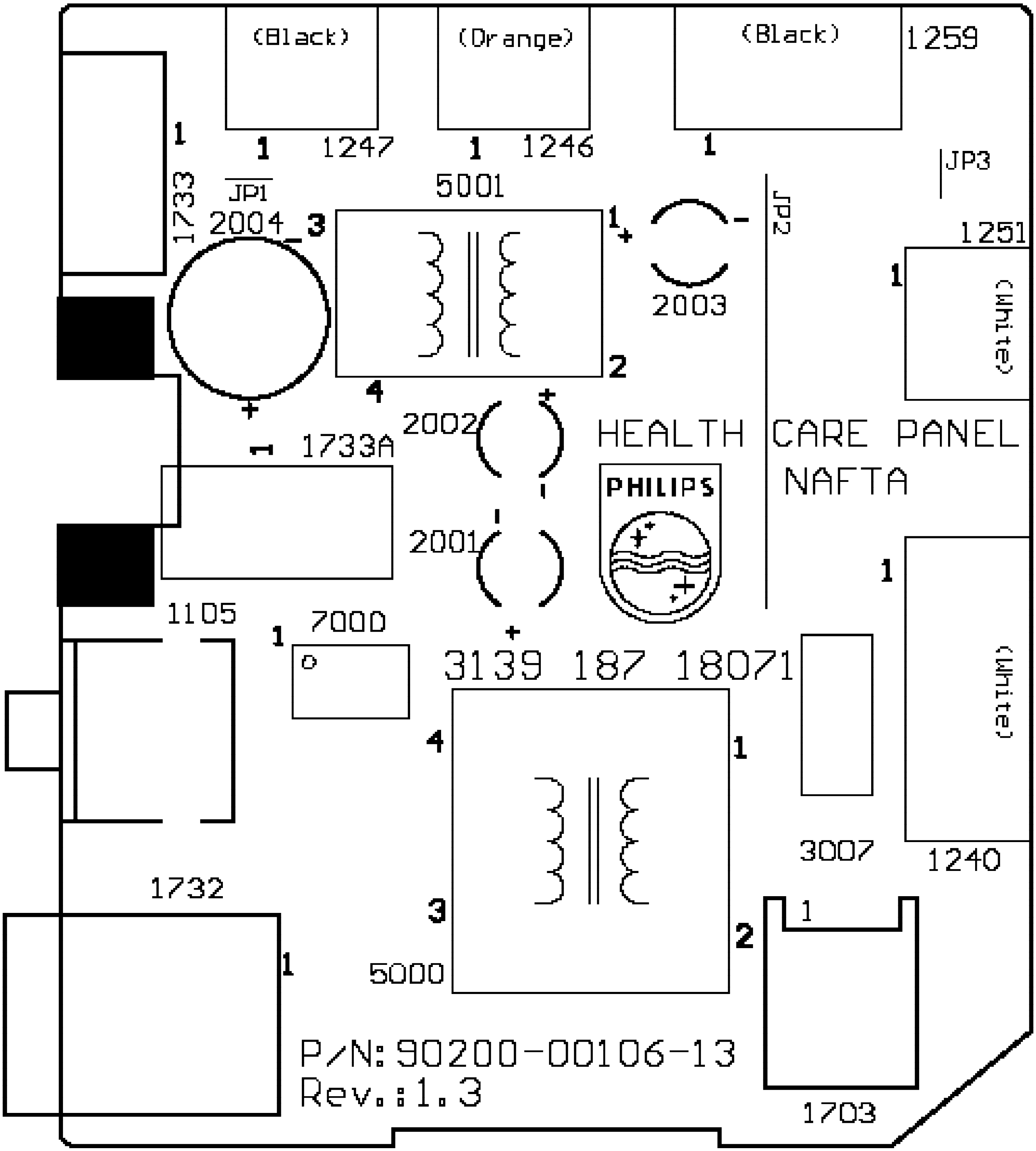

0232
5
8
6
2
3
9
9
8
6
0250
5
3
2
3153
9153
2179
2178
2177
3150
2173
2174
3151
3155
6161
2176
3152
9155
2171
3156
3157
0251
5 0254 1
1 3
1 0252 4
0253
1 3
2172
4 0255 1
1 0261 6

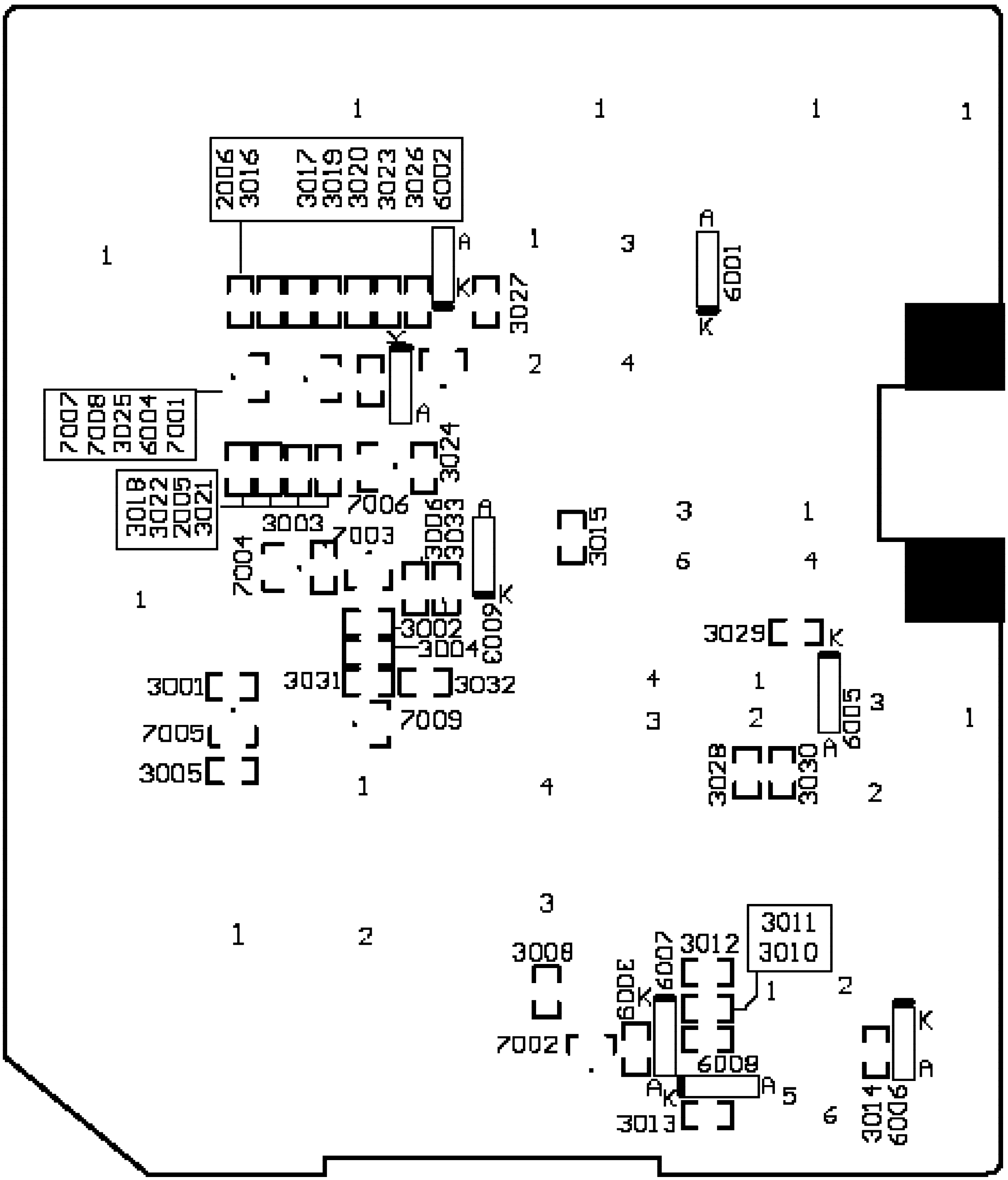


Pin
Description
1
+5 V Output
2
Ground
3
+12 V Output
0228
R16
C29
IC2
C21
IC3
J3
C28
R13
ZD2
R11
C20
C6
IC1
C27
G
R24
R14
R15
C36
D2
C37
C4
C35
L5
C23
A
C8
CR1
C
C10
C22
C7
C2
B
C11
CR2
C24
IC4
R23
3139 137 22961
T1
D1
ZD1
C38
C5
BR1
0213
33-00764-0
CAUTION : FOR CONTINUE PROTECTION AGAINST RISK OF FIRE, REPLACE ONLY WITH SAME TYPE OF FUSE.
ATTENTION : UTILISER UN FUSIBLE DE RECHANGE DE MEME TYPE DE (...A...V)
19195 T 1A L/250V BY WICKMANN
ATTENTION LIVE PARTS


0242
0227
9005
9001
1800
1002
USA - 3-PIN
EURO-A/P - 5-PIN
0228
9020
3740
3739
1700
6703
6701
2703
0251
5705
9009
0240
0237
0217
9008
9004
9010
9021
1775
Position UL logo
JASOND
2001
JFMAMJ
9002
3747
1259
0259
3745
9003
9007
PHILIPS
L01
INTERFACE
3135 013 3227 . 5 01


0227
0242
7708
1800
9005
9001
4010
1002
3736
7716
3731
3733
2710
2709
3734
3701
7712
7710
RESET
GND
VCC
3728
3722
9020
0228
3739
1700
3740
7704
7705
7706
6701
5705
0237
2700
3743
2712
9009
3724
3720
3737
3738
6703
2703
3719
7711
3705
3706
2704
7707
0217
3742
7715
6702
0251
1775
0240
9010
9021
9008
9004
6704
6706
3708
9002
3745
9007
9003
1259
3746
3710
7700
7701
3747
0259


(Black)
(Orange)
(Black)
1259
1
1
1247
1
1246
1
JP3
1733
JP1
5001
2004
3
1
JP2
1251
2003
1
(White)
2
4
2002
HEALTH CARE PANEL
NAFTA
1733A
PHILIPS
2001
1
1105
7000
1
3139 187 18071
4
1
(White)
3007
1240
1732
3
1
2
1
5000
P/N: 90200-00106-13
Rev.:1.3
1703


2006
3016
3017
3019
3020
3023
3026
6002
3027
6001
7007
7008
3025
6004
7001
3024
3018
3022
2005
3021
3003
7006
7003
3006
3033
3015
7004
6009
3002
3004
3029
3001
3031
3032
6005
7009
7005
3005
3028
3030
3011
3010
3008
3012
6003
6007
7002
6008
3013
3014
6006